

SEQUENCE LISTING

<110> Nagaike, Kazuhiro
 Mori, Yasuko
 Gomi, Yasuyuki
 Takahashi, Michiaki
 Kouichi, Yamanishi

<120> Recombinant varicella-zoster virus

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<150> PCT/JP2005/003652
 <151> 2005-03-05

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<170> PatentIn version 3.2

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<223> The 'Xaa' at location 99 stands for Thr, or Met.

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gcgagagcgt ttggaaaact cgggtacgtc taaattcacc ccagygcg atg gat acg 237
Met Asp Thr
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ccg ccg atg cag cgc tct aca ccc caa cgc gcg ggg tcg cct gat act 285
Pro Pro Met Gln Arg Ser Thr Pro Gln Arg Ala Gly Ser Pro Asp Thr
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Leu Glu Leu Met Asp Leu Leu Asp Ala Ala Ala Ala Ala Ala Glu His
20 25 30 35

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Arg Ala Arg Val Val Thr Ser Ser Gln Pro Asp Asp Leu Leu Phe Gly

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	Ser Val Ser Gly Leu Gln Pro Glu Pro Arg Thr Glu Asp Val Gly Glu			
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Pro Arg Arg Val Ser Val Gly Ser Glu Thr Thr Gly Ser Arg Ser Gly				
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Ser Ile Pro Ser Val Ser Gly Leu Gln Pro Glu Pro Arg Thr Glu Asp
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Gly Ser Ile Thr Ala Ser Phe Ile Leu Ile Thr Met Gln Ile Leu Phe						
500 505 510						
ttt tgt gaa gac agc agt ggg gag cca aac ttt gca gaa cgg aat ttt	10740					
Phe Cys Glu Asp Ser Ser Gly Glu Pro Asn Phe Ala Glu Arg Asn Phe						
515 520 525 530						
tgg cat gcc agc tgt tgg gct cgt gga gtt tat atc gac gga tca atg	10788					
Trp His Ala Ser Cys Ser Ala Arg Gly Val Tyr Ile Asp Gly Ser Met						
535 540 545						
atc acc acc ctt ttc ttc tac gca tcc ctt ttg ggg gtg tgt gta gcc	10836					
Ile Thr Thr Leu Phe Phe Tyr Ala Ser Leu Leu Gly Val Cys Val Ala						
550 555 560						
ctt att tog tta gct tat cat gcg tgt ttc cgg tta ttt act cgt tct	10884					
Leu Ile Ser Leu Ala Tyr His Ala Cys Phe Arg Leu Phe Thr Arg Ser						
565 570 575						
gta tta cgc agc acg tgg taaacccgtt tgccataaaa aggggcaggc	10932					
Val Leu Arg Ser Thr Trp						
580						
gtgtataaga gggccctgt ttaatacgcg gtctgcogtg tttggatatt tcacgacct	10992					
atcgttttatt taogta atg gca tct tcc gac ggt gac aga ctt tgt cgc tct	11044					
Met Ala Ser Ser Asp Gly Asp Arg Leu Cys Arg Ser						
585 590 595						
aat gca gtg cgt cgt aaa aca acg cct agt tat tcc gga caa tat cga	11092					
Asn Ala Val Arg Arg Lys Thr Thr Pro Ser Tyr Ser Gly Gln Tyr Arg						
600 605 610						
acc gcg cgg cga agt gtg gtc gta gga ccc ccc gat gat tca gac gac	11140					
Thr Ala Arg Arg Ser Val Val Val Gly Pro Pro Asp Asp Ser Asp Asp						
615 620 625						
tgg ttg ggt tac att acc aca gtt ggg gcc gat tct cct tct cca gtg	11188					
Ser Leu Gly Tyr Ile Thr Thr Val Gly Ala Asp Ser Pro Ser Pro Val						
630 635 640						
tac gcg gat ctt tat ttt gaa cat aaa aat acg acc cct cgc gta cat	11236					
Tyr Ala Asp Leu Tyr Phe Glu His Lys Asn Thr Thr Pro Arg Val His						
645 650 655 660						
caa cca aac gac tcc agc gga tgg gaa gat gac ttt gaa gac atc gat	11284					
Gln Pro Asn Asp Ser Ser Gly Ser Glu Asp Asp Phe Glu Asp Ile Asp						
665 670 675						

gaa gta gtg gcc gcc ttt cgg gag gcc cgt ttg aga cat gaa ctg gtt	11332
Glu Val Val Ala Ala Phe Arg Glu Ala Arg Leu Arg His Glu Leu Val	
680 685 690	
gaa gat gct gta tat gaa aac ccg cta agt gta gaa aaa cca tct aga	11380
Glu Asp Ala Val Tyr Glu Asn Pro Leu Ser Val Glu Lys Pro Ser Arg	
695 700 705	
tct ttt act aaa aat gcg gcg gtt aaa cct aaa tta gag gat tca ccg	11428
Ser Phe Thr Lys Asn Ala Ala Val Lys Pro Lys Leu Glu Asp Ser Pro	
710 715 720	
aag cga gct ccc ccg gga gca ggc gca att gcc agc ggg aga cca att	11476
Lys Arg Ala Pro Pro Gly Ala Gly Ala Ile Ala Ser Gly Arg Pro Ile	
725 730 735 740	
tcc ttc agc act gca cca aaa acc gca aca agc tcg tgg tgc ggt cct	11524
Ser Phe Ser Thr Ala Pro Lys Thr Ala Thr Ser Ser Trp Cys Gly Pro	
745 750 755	
acg cca tca tat aac aaa cgc gtc ttt tgt gaa gcg gtc ccg cgc gta	11572
Thr Pro Ser Tyr Asn Lys Arg Val Phe Cys Glu Ala Val Arg Arg Val	
760 765 770	
gcc gcc atg cag gca caa aag gct gcc gaa gcg gct tgg aat agt aat	11620
Ala Ala Met Gln Ala Gln Lys Ala Ala Glu Ala Ala Trp Asn Ser Asn	
775 780 785	
ccc cca agg aat aac gcc gaa tta gac cgt ttg tta acc gga gcc gtt	11668
Pro Pro Arg Asn Asn Ala Glu Leu Asp Arg Leu Leu Thr Gly Ala Val	
790 795 800	
att cgt att acg gtg cat gag ggt tta aat tta ata caa gcc gct aat	11716
Ile Arg Ile Thr Val His Glu Gly Leu Asn Leu Ile Gln Ala Ala Asn	
805 810 815 820	
gaa gca gac cta ggt gaa gga gca tcg gta tcc aaa cgt gga cat aat	11764
Glu Ala Asp Leu Gly Glu Gly Ala Ser Val Ser Lys Arg Gly His Asn	
825 830 835	
cga aaa act gga gat tta cag ggg ggc atg ggt aat gaa cct atg tac	11812
Arg Lys Thr Gly Asp Leu Gln Gly Gly Met Gly Asn Glu Pro Met Tyr	
840 845 850	
gca caa gtt cgt aag cca aaa agt cga acg gat aca caa acg act ggg	11860
Ala Gln Val Arg Lys Pro Lys Ser Arg Thr Asp Thr Gln Thr Thr Gly	
855 860 865	
cgt ata act aat cga agt agg gcc cgt tct gca tca aga act gat acg	11908
Arg Ile Thr Asn Arg Ser Arg Ala Arg Ser Ala Ser Arg Thr Asp Thr	
870 875 880	
cga aaa tag ggatataatt acgcagtaac ggtttaccgg gtattatgta	11957
Arg Lys	
885	
taataaataa acgtataaaa gacagtcgtg gtttgtgttt attataaatg tgtattatat	12017
gtcacatatt ataaactgtt taaatagtag cacgtgggtat tatgaacagt ttataatcag	12077

ttgctaccaa acaaaacccca ttagacggcg ggttttgata aagggaatcg cttattttaa	12137
ctaaagatttt tactotataa gt atg gag tgt aat tta gga acc gaa cat cct	12189
Met Glu Cys Asn Leu Gly Thr Glu His Pro	
890 895	
agt aca gat acg tgg aat cgt agt aaa acg gaa caa gcg gtt gtg gac	12237
Ser Thr Asp Thr Trp Asn Arg Ser Lys Thr Glu Gln Ala Val Val Asp	
900 905 910	
gca ttt gat gaa tcg ttg ttt ggt gat gta gca tcg gat att gga ttt	12285
Ala Phe Asp Glu Ser Leu Phe Gly Asp Val Ala Ser Asp Ile Gly Phe	
915 920 925	
gaa acg tcg tta tat tca cat gca gtt aaa act gct ccg tct ccg cct	12333
Glu Thr Ser Leu Tyr Ser His Ala Val Lys Thr Ala Pro Ser Pro Pro	
930 935 940	
tgg gta gct agc cct aaa att tta tat caa cag tta ata cgg gat ctt	12381
Trp Val Ala Ser Pro Lys Ile Leu Tyr Gln Gln Leu Ile Arg Asp Leu	
945 950 955 960	
gat ttt tca gaa ggg ccg cgt tta cta tca tgt ctt gaa acc tgg aac	12429
Asp Phe Ser Glu Gly Pro Arg Leu Leu Ser Cys Leu Glu Thr Trp Asn	
965 970 975	
gag gat tta ttc tca tgt ttt cct att aat gag gac cta tat tcc gat	12477
Glu Asp Leu Phe Ser Cys Phe Pro Ile Asn Glu Asp Leu Tyr Ser Asp	
980 985 990	
atg atg gtt tta tcc ccg gat cca gat gac gtt atc tca acc gtt tca	12525
Met Met Val Leu Ser Pro Asp Pro Asp Asp Val Ile Ser Thr Val Ser	
995 1000 1005	
acc aaa gac cat gtt gaa atg ttt aat tta aca acc cgg ggt tcc	12570
Thr Lys Asp His Val Glu Met Phe Asn Leu Thr Thr Arg Gly Ser	
1010 1015 1020	
gtt cga ttg cct agt cca cca aag caa ccg acg ggg ctt cca got	12615
Val Arg Leu Pro Ser Pro Pro Lys Gln Pro Thr Gly Leu Pro Ala	
1025 1030 1035	
tac gtt cag gag gtc cag gat tcg ttt acc gta gaa cta cgc gcc	12660
Tyr Val Gln Glu Val Gln Asp Ser Phe Thr Val Glu Leu Arg Ala	
1040 1045 1050	
cgg gaa gaa gca tac aca aaa cta cta gtt act tat tgt aaa tcg	12705
Arg Glu Glu Ala Tyr Thr Lys Leu Leu Val Thr Tyr Cys Lys Ser	
1055 1060 1065	
att ata cgt tat ctc caa gga acg gcg aaa agg acg aca ata ggt	12750
Ile Ile Arg Tyr Leu Gln Gly Thr Ala Lys Arg Thr Thr Ile Gly	
1070 1075 1080	
ctt aat ata caa aac cct gac cag aaa got tac acg caa ctc agg	12795
Leu Asn Ile Gln Asn Pro Asp Gln Lys Ala Tyr Thr Gln Leu Arg	
1085 1090 1095	
caa agt att cta ctt aga tat tat cgt gag gtg gca agt ttg gcg	12840

Gln 1100	Ser 1105	Ile	Leu	Leu	Arg	Tyr	Tyr	Arg	Glu	Val	Ala 1110	Ser	Leu	Ala		
cgt Arg	ctt Leu 1115	ctg Leu	tac Tyr	cta Leu	cat His	tta Leu 1120	tat Tyr	tta Leu	acc Thr	gta Val	acg Thr 1125	cgt Arg	gaa Glu	ttt Phe	12885	
tcc Ser	tgg Trp 1130	cgt Arg	ttg Leu	tac Tyr	gcc Ala	agt Ser 1135	caa Gln	tct Ser	gca Ala	cac His	ccg Pro 1140	gac Asp	gtg Val	ttt Phe	12930	
gcg Ala	gct Ala 1145	tta Leu	aaa Lys	ttc Phe	acc Thr	tgg Trp 1150	acc Thr	gaa Glu	cgt Arg	cga Arg	cag Gln 1155	ttc Phe	acg Thr	tgt Cys	12975	
gcg Ala	ttt Phe 1160	cat His	cct Pro	gta Val	tta Leu	tgc Cys 1165	aac Asn	cac His	ggc Gly	att Ile	gtg Val 1170	tta Leu	tta Leu	gaa Glu	13020	
ggg Gly	aaa Lys 1175	cca Pro	cta Leu	aca Thr	ggg Ala	tct Ser 1180	gcc Ala	ttg Leu	agg Arg	gaa Glu	ata Ile 1185	aat Asn	tac Tyr	cgc Arg	13065	
cgc Arg	cga Arg 1190	gaa Glu	ctg Leu	gga Gly	ctg Leu	cct Pro 1195	cta Leu	gtt Val	aga Arg	tgt Cys	ggt Gly 1200	ctt Leu	gtt Val	gaa Glu	13110	
gaa Glu	aac Asn 1205	aaa Lys	tct Ser	ccg Pro	ttg Leu	gtt Val 1210	caa Gln	caa Gln	ccc Pro	tca Ser	ttt Phe 1215	tcg Ser	gtt Val	cat His	13155	
tta Leu	cca Pro 1220	cgg Arg	tcg Ser	gtg Val	ggt Gly	ttt Phe 1225	ctt Leu	acc Thr	cac His	cac His	att Ile 1230	aag Lys	cgt Arg	aag Lys	13200	
tta Leu	gac Asp 1235	gca Ala	tat Tyr	gcg Ala	gtc Val	aaa Lys 1240	cat His	cct Pro	caa Gln	gaa Glu	ccg Pro 1245	aga Arg	cat His	gta Val	13245	
cga Arg	gcg Ala 1250	gat Asp	cat His	cct Pro	tac Tyr	gca Ala 1255	aaa Lys	gtt Val	gtt Val	gaa Glu	aat Asn 1260	aga Arg	aac Asn	tac Tyr	13290	
ggt Gly	agt Ser 1265	agc Ser	atc Ile	gaa Glu	gct Ala	atg Met 1270	att Ile	tta Leu	gca Ala	cct Pro	ccg Pro 1275	tcc Ser	cca Pro	tcc Ser	13335	
gag Glu	atc Ile 1280	ctg Leu	ccg Pro	ggg Gly	gac Asp	cca Pro 1285	cca Pro	cgc Arg	cca Pro	ccc Pro	acg Thr 1290	tgt Cys	ggg Gly	ttt Phe	13380	
tta Leu	acg Thr 1295	cgt Arg	taa	acgtcattgg	ggtagagggt	gtaaataaat	tacgaaaaacg									13432
tgcatgcgtt	ttttattttt	acaatgcgcc	gtatatggta	tgtotgtcat	gtgctctaaa											13492
gtccatata	taaaagaagc	cccaacgagt	gtatgcgtat	tgcgtaaccgc	gacccgtggga											13552
tgttttacag	gcgcgtttgt	ttgtctcggt	tataagt	atg	cag	tcg	ggt	cat	tat							13607

Met Gln Ser Gly His Tyr
1300

aac cgg agg	caa tcc cgc cga	cag cgg ata tcc tot	aat acc aca	13652
Asn Arg Arg	Gln Ser Arg Arg	Gln Arg Ile Ser Ser	Asn Thr Thr	
1305	1310	1315		
gac tcc ccc	cgt cac aca cac	gga aca cgt tat cgg tca	acc aat	13697
Asp Ser Pro	Arg His Thr His	Gly Thr Arg Tyr Arg	Ser Thr Asn	
1320	1325	1330		
tgg tat aca	cac cca ccc cag	ata ttg tcc aat tca gaa	aca tta	13742
Trp Tyr Thr	His Pro Pro Gln	Ile Leu Ser Asn Ser	Glu Thr Leu	
1335	1340	1345		
gtt gcg gtt	caa gaa cta ctg	aac tcc gag atg gat	cag gac agc	13787
Val Ala Val	Gln Glu Leu Leu	Asn Ser Glu Met Asp	Gln Asp Ser	
1350	1355	1360		
agt tct gac	gca tcc gat gat	ttt ccg gga tac gcc tta	cat cat	13832
Ser Ser Asp	Ala Ser Asp Asp	Phe Pro Gly Tyr Ala	Leu His His	
1365	1370	1375		
tct aca tat	aat gga tcc gaa	caa aat aca tca act tcc	aga cat	13877
Ser Thr Tyr	Asn Gly Ser Glu	Gln Asn Thr Ser Thr	Ser Arg His	
1380	1385	1390		
gaa aat cgc	ata ttt aaa tta	acg gag agg gaa gct	aat gag gaa	13922
Glu Asn Arg	Ile Phe Lys Leu	Thr Glu Arg Glu Ala	Asn Glu Glu	
1395	1400	1405		
atc aac atc	aat acg gac gcg	atc gac gac gag gga	gag gcg gag	13967
Ile Asn Ile	Asn Thr Asp Ala	Ile Asp Asp Glu Gly	Glu Ala Glu	
1410	1415	1420		
gag gga gag	gcg gag gag gac	gcg atc gac gac gag	gga gag gcg	14012
Glu Gly Glu	Ala Glu Glu Asp	Ala Ile Asp Asp Glu	Gly Glu Ala	
1425	1430	1435		
gag gag gga	gag gcg gag gag	gac gcg att gac gac	gag gga gag	14057
Glu Glu Gly	Glu Ala Glu Glu	Asp Ala Ile Asp Asp	Glu Gly Glu	
1440	1445	1450		
gcg gag gag	gga gag gcg gag	gag gac gcg att gac	gac gag gga	14102
Ala Glu Glu	Gly Glu Ala Glu	Glu Asp Ala Ile Asp	Asp Glu Gly	
1455	1460	1465		
gag gcg gag	gag gga gag gcg	gag gag gga gag gcg	gag gga	14147
Glu Ala Glu	Glu Gly Glu Ala	Glu Glu Gly Glu Ala	Glu Glu Gly	
1470	1475	1480		
gag gcg gag	gag gac gcg atc	gac gag gga gag gcg	gag gag	14192
Glu Ala Glu	Glu Asp Ala Ile	Asp Asp Glu Gly Glu	Ala Glu Glu	
1485	1490	1495		
gac gcg gcg	gag gag gac gcg	atc gac gac gag gga	gag gcg gag	14237
Asp Ala Ala	Glu Glu Asp Ala	Ile Asp Asp Glu Gly	Glu Ala Glu	
1500	1505	1510		
gag gat tat	ttt tct gta agt	caa gtt tgc agt cga	gac gcg gat	14282

Glu Asp Tyr	Phe Ser Val Ser	Gln Val Cys Ser Arg Asp	Ala Asp	
1515		1520	1525	
gag gtt tat	ttt acg tta gac ccg	gaa ata agt tac agt	acc gat	14327
Glu Val Tyr	Phe Thr Leu Asp Pro	Glu Ile Ser Tyr Ser	Thr Asp	
1530	1535	1540		
ctt cgc att	gca aag gtt atg gag	cct gcg gta tca aag	gaa ctt	14372
Leu Arg Ile	Ala Lys Val Met Glu	Pro Ala Val Ser Lys	Glu Leu	
1545	1550	1555		
aat gta tca	aaa cgt tgt gtt gaa	cct gtt acc cta aca	ggc tct	14417
Asn Val Ser	Lys Arg Cys Val Glu	Pro Val Thr Leu Thr	Gly Ser	
1560	1565	1570		
atg tta gcg	cat aat ggg ttt gat	gag tcc tgg ttt got	atg cgc	14462
Met Leu Ala	His Asn Gly Phe Asp	Glu Ser Trp Phe Ala	Met Arg	
1575	1580	1585		
gaa tgt acc	cgt cgc gaa tat att	acg gtc caa gga tta	tac gac	14507
Glu Cys Thr	Arg Arg Glu Tyr Ile	Thr Val Gln Gly Leu	Tyr Asp	
1590	1595	1600		
cca att cat	tta cgg tat cag ttt	gat act tcc cgg atg	aca ccc	14552
Pro Ile His	Leu Arg Tyr Gln Phe	Asp Thr Ser Arg Met	Thr Pro	
1605	1610	1615		
cca cag att	ttg aga act ata cca	gcc ctt cct aac atg	aca ctt	14597
Pro Gln Ile	Leu Arg Thr Ile Pro	Ala Leu Pro Asn Met	Thr Leu	
1620	1625	1630		
ggt gaa ctt	tta ttg att ttt cct	att gaa ttt atg gcc	cag cca	14642
Gly Glu Leu	Leu Leu Ile Phe Pro	Ile Glu Phe Met Ala	Gln Pro	
1635	1640	1645		
att tct ata	gaa cgt att tta gtt	gaa gat gta ttt tta	gat agg	14687
Ile Ser Ile	Glu Arg Ile Leu Val	Glu Asp Val Phe Leu	Asp Arg	
1650	1655	1660		
cgg gct tcc	agt aaa aca cat aaa	tac ggc ccg cgt tgg	aat tcc	14732
Arg Ala Ser	Ser Lys Thr His Lys	Tyr Gly Pro Arg Trp	Asn Ser	
1665	1670	1675		
gtc tac gca	ctt cca tat aat gcg	ggt aaa atg tat gta	caa cac	14777
Val Tyr Ala	Leu Pro Tyr Asn Ala	Gly Lys Met Tyr Val	Gln His	
1680	1685	1690		
att cct ggg	ttt tat gac gtg tcc	tta cgt gct gtg ggc	caa gga	14822
Ile Pro Gly	Phe Tyr Asp Val Ser	Leu Arg Ala Val Gly	Gln Gly	
1695	1700	1705		
acg gcc att	tgg cat cac atg ata	tta tcc aca gca gca	tgc got	14867
Thr Ala Ile	Trp His His Met Ile	Leu Ser Thr Ala Ala	Cys Ala	
1710	1715	1720		
att tct aat	cgc att tca cat gga	gat gga tta gga ttt	ttg tta	14912
Ile Ser Asn	Arg Ile Ser His Gly	Asp Gly Leu Gly Phe	Leu Leu	
1725	1730	1735		
gac gcg gca	att cgt att ago gca	aac tgt att ttt ttg	gga cgt	14957

Asp	Ala	Ala	Ile	Arg	Ile	Ser	Ala	Asn	Cys	Ile	Phe	Leu	Gly	Arg	
	1740						1745					1750			
aac	gat	aat	ttt	ggc	gtg	ggg	gat	cca	tgt	tgg	tta	gaa	gac	cat	15002
Asn	Asp	Asn	Phe	Gly	Val	Gly	Asp	Pro	Cys	Trp	Leu	Glu	Asp	His	
	1755						1760					1765			
ctt	gcc	gga	tta	cca	cga	gaa	gcc	gta	ccc	gac	gta	ctc	caa	gtg	15047
Leu	Ala	Gly	Leu	Pro	Arg	Glu	Ala	Val	Pro	Asp	Val	Leu	Gln	Val	
	1770						1775					1780			
aca	cag	ttg	gtt	ttg	cca	aat	cgg	ggg	cca	acg	gtt	gcc	att	atg	15092
Thr	Gln	Leu	Val	Leu	Pro	Asn	Arg	Gly	Pro	Thr	Val	Ala	Ile	Met	
	1785						1790					1795			
cgt	ggg	ttt	ttt	ggg	gag	ttg	gca	tat	tgg	ccc	gaa	cta	aga	att	15137
Arg	Gly	Phe	Phe	Gly	Ala	Leu	Ala	Tyr	Trp	Pro	Glu	Leu	Arg	Ile	
	1800						1805					1810			
gct	ata	agt	gaa	cca	tct	aca	tct	ttg	gtg	cga	tat	gct	acc	ggg	15182
Ala	Ile	Ser	Glu	Pro	Ser	Thr	Ser	Leu	Val	Arg	Tyr	Ala	Thr	Gly	
	1815						1820					1825			
cac	atg	gaa	ctt	gcc	gaa	tgg	ttt	tta	ttt	tca	cgt	aca	cat	agt	15227
His	Met	Glu	Leu	Ala	Glu	Trp	Phe	Leu	Phe	Ser	Arg	Thr	His	Ser	
	1830						1835					1840			
tta	aag	cca	caa	ttt	acc	cca	acg	gaa	cgg	gaa	atg	tta	gag	tca	15272
Leu	Lys	Pro	Gln	Phe	Thr	Pro	Thr	Glu	Arg	Glu	Met	Leu	Ala	Ser	
	1845						1850					1855			
ttt	ttt	acg	ttg	tat	gtt	act	ctt	ggg	gga	gga	atg	ttg	aac	tgg	15317
Phe	Phe	Thr	Leu	Tyr	Val	Thr	Leu	Gly	Gly	Gly	Met	Leu	Asn	Trp	
	1860						1865					1870			
atc	tgt	aga	gca	act	gca	atg	tat	tta	got	gct	oot	tac	cat	tcc	15362
Ile	Cys	Arg	Ala	Thr	Ala	Met	Tyr	Leu	Ala	Ala	Pro	Tyr	His	Ser	
	1875						1880					1885			
cgt	tgg	gct	tac	atc	ggg	gtc	tgt	gaa	tct	ctg	ccc	tat	tac	tat	15407
Arg	Ser	Ala	Tyr	Ile	Ala	Val	Cys	Glu	Ser	Leu	Pro	Tyr	Tyr	Tyr	
	1890						1895					1900			
atc	cgg	gtt	aat	agt	gac	ctg	tta	tgt	gat	tta	gag	gta	tta	ctg	15452
Ile	Pro	Val	Asn	Ser	Asp	Leu	Leu	Cys	Asp	Leu	Glu	Val	Leu	Leu	
	1905						1910					1915			
tta	ggc	gag	gtc	gac	ctc	cca	act	gtt	tgt	gaa	tcc	tac	gca	act	15497
Leu	Gly	Glu	Val	Asp	Leu	Pro	Thr	Val	Cys	Glu	Ser	Tyr	Ala	Thr	
	1920						1925					1930			
att	gca	cac	gaa	tta	acc	gga	tat	gag	gct	gtt	cgc	aca	gca	gcc	15542
Ile	Ala	His	Glu	Leu	Thr	Gly	Tyr	Glu	Ala	Val	Arg	Thr	Ala	Ala	
	1935						1940					1945			
aca	aat	ttt	atg	ata	gag	ttt	gcc	gat	tgt	tat	aag	gaa	agt	gag	15587
Thr	Asn	Phe	Met	Ile	Glu	Phe	Ala	Asp	Cys	Tyr	Lys	Glu	Ser	Glu	
	1950						1955					1960			
acc	gat	tta	atg	gta	agc	gag	tac	ctg	ggg	gcc	gtt	tta	ttg	tta	15632

Thr	Asp	Leu	Met	Val	Ser	Ala	Tyr	Leu	Gly	Ala	Val	Leu	Leu	Leu		
		1965					1970					1975				
caa	cgg	gtg	ttg	ggt	cat	gca	aat	ctt	ctt	ttg	ttg	ctt	ctc	tcc	15677	
Gln	Arg	Val	Leu	Gly	His	Ala	Asn	Leu	Leu	Leu	Leu	Leu	Leu	Ser		
		1980					1985					1990				
ggt	gct	gcg	ttg	tac	gga	gga	tgt	tca	att	tac	atc	ccc	cga	ggt	15722	
Gly	Ala	Ala	Leu	Tyr	Gly	Gly	Cys	Ser	Ile	Tyr	Ile	Pro	Arg	Gly		
		1995					2000					2005				
att	tta	gat	gca	tat	aat	act	tta	atg	ttg	gca	gca	agt	cct	ctt	15767	
Ile	Leu	Asp	Ala	Tyr	Asn	Thr	Leu	Met	Leu	Ala	Ala	Ser	Pro	Leu		
		2010					2015					2020				
tac	gct	cac	caa	act	tta	aca	tcc	ttt	tgg	aaa	gac	cgc	gat	gat	15812	
Tyr	Ala	His	Gln	Thr	Leu	Thr	Ser	Phe	Trp	Lys	Asp	Arg	Asp	Asp		
		2025					2030					2035				
gca	atg	caa	act	ttg	ggg	att	cga	ccg	aca	acg	gac	gtt	tta	ccc	15857	
Ala	Met	Gln	Thr	Leu	Gly	Ile	Arg	Pro	Thr	Thr	Asp	Val	Leu	Pro		
		2040					2045					2050				
aaa	gag	caa	gac	agg	ata	gtt	cag	gca	tca	cct	ata	gag	atg	aac	15902	
Lys	Glu	Gln	Asp	Arg	Ile	Val	Gln	Ala	Ser	Pro	Ile	Glu	Met	Asn		
		2055					2060					2065				
ttc	cgt	ttt	gtg	gga	ttg	gag	acc	atc	tat	ccc	cga	gaa	cag	ccc	15947	
Phe	Arg	Phe	Val	Gly	Leu	Glu	Thr	Ile	Tyr	Pro	Arg	Glu	Gln	Pro		
		2070					2075					2080				
att	ccc	tcc	gtg	gac	cta	gcc	gaa	aat	ctt	atg	caa	tac	agg	aat	15992	
Ile	Pro	Ser	Val	Asp	Leu	Ala	Glu	Asn	Leu	Met	Gln	Tyr	Arg	Asn		
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Arg	Lys	Tyr														
		2115														
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	Met	Phe	Ser	Arg	Phe	Ala	Arg	Ser	Phe	Ser	Ser	Asp	Asp	Arg		
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Thr	Arg	Lys	Ser	Tyr	Asp	Gly	Ser	Tyr	Gln	Ser	Phe	Asn	Ala	Gly		
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Glu	Arg	Asp	Leu	Pro	Thr	Pro	Thr	Arg	Asp	Trp	Cys	Ser	Ile	Ser		
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cac His 2205	agt Ser	gtt Val	ctg Leu	ctt Leu	gga Gly 2210	tta Leu	cac His	cat His	aat Asn	aat Asn 2215	gtt Val	cct Pro	gaa Glu	tgc Ser	16525
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cag Gln 2235	cgt Arg	tat Tyr	atg Met	gaa Glu	aca Thr 2240	att Ile	caa Gln	aga Arg	tgt Cys	ttg Leu 2245	gat Asp	gac Asp	ctg Leu	aaa Lys	16615
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gat Asp 2340	gat Asp	cct Pro	aca Thr	aac Asn	ccc Pro 2345	agc Ser	ccg Pro	gat Asp	aca Thr	aga Arg 2350	ata Ile	cgt Arg	gta Val	caa Gln	16930
gaa Glu 2355	att Ile	gcg Ala	gct Ala	tac Tyr	acg Thr 2360	gct Ala	act Thr	ggc Gly	tac Tyr	ggg Gly 2365	tgg Trp	atg Met	tta Leu	tgg Trp	16975
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caa 2385	ttt 2390	cga 2395	cgg 2400	att 2405	cga 2410	ggg 2415	ccg 2420	cgc 2425	gcg 2430	tct 2435	gtt 2440	att 2445	cca 2450	gat 2455	17065

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gtt Val 2460	gaa Glu	ctt Leu	att Ile	acg Thr	ctt Leu 2465	ttg Leu	cac His	cac His	cat His	ttt Phe 2470	caa Gln	tac Tyr	tta Leu	att Ile	17290
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gtg Val 2535	gcg Ala	cag Gln	agt Ser	att Ile	tta Leu 2540	gca Ala	cat His	ggg Gly	ggt Gly	aaa Lys 2545	ccc Pro	aca Thr	aag Lys	tat Tyr	17515
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aat Asn 2595	ttg Leu	gaa Glu	tgt Cys	gtc Val	tgt Cys 2600	tta Leu	acg Thr	gga Gly	aat Asn	tat Tyr 2605	tta Leu	tct Ser	gac Asp	gac Asp	17695
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[illegible]

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atc gga acg tta	tct tta ttt gga atg	caa gct cga tac aat ttg	18605
Ile Gly Thr Leu	Ser Leu Phe Gly Met	Gln Ala Arg Tyr Asn Leu	
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cga aat gaa ttt	cct ctt tta act aca	aag cgt gtt ttt tgg agg	18650
Arg Asn Glu Phe	Pro Leu Leu Thr Thr	Lys Arg Val Phe Trp Arg	
2835	2840	2845	
gcc gtc gtg gaa	gag ttg tta tgg ttt	atc cgc ggg tca acc gat	18695
Ala Val Val Glu	Glu Leu Leu Trp Phe	Ile Arg Gly Ser Thr Asp	
2850	2855	2860	
tcc aaa gaa ctc	gcc gct aaa gat ata	cac ata tgg gat ata tac	18740
Ser Lys Glu Leu	Ala Ala Lys Asp Ile	His Ile Trp Asp Ile Tyr	
2865	2870	2875	
gga tcg agc aaa	ttt cta aat agg aat	ggc ttc cat aaa aga cac	18785
Gly Ser Ser Lys	Phe Leu Asn Arg Asn	Gly Phe His Lys Arg His	
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acg ggg gac ctt	ggc ccc att tac ggc	ttc cag tgg aga cat ttt	18830
Thr Gly Asp Leu	Gly Pro Ile Tyr Gly	Phe Gln Trp Arg His Phe	
2895	2900	2905	
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Gly Ala Glu Tyr	Lys Asp Cys Gln Ser	Asn Tyr Leu Gln Gln Gly	
2910	2915	2920	
atc gat cag ctg	caa act gtt ata gat	aca att aaa aca aac cca	18920
Ile Asp Gln Leu	Gln Thr Val Ile Asp	Thr Ile Lys Thr Asn Pro	
2925	2930	2935	
gaa agc cga cga	atg att ata tcg tct	tgg aat cca aag gat atc	18965
Glu Ser Arg Arg	Met Ile Ile Ser Ser	Trp Asn Pro Lys Asp Ile	
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ccc tta atg gta	cta cct cca tgt cac	acg tta tgt cag ttt tac	19010
Pro Leu Met Val	Leu Pro Pro Cys His	Thr Leu Cys Gln Phe Tyr	
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gtt gca aac ggt	gaa tta tcc tgc caa	gta tac cag aga tcg ggg	19055
Val Ala Asn Gly	Glu Leu Ser Cys Gln	Val Tyr Gln Arg Ser Gly	
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Asp Met Gly Leu	Gly Val Pro Phe Asn	Ile Ala Gly Tyr Ala Leu	
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ctt acc tac ata	gta gcg cat gtt aca	gga ctt aaa acc gga gat	19145
Leu Thr Tyr Ile	Val Ala His Val Thr	Gly Leu Lys Thr Gly Asp	
3000	3005	3010	
tta att cat aca	atg ggg gat gca cat	att tac ttg aat cat ata	19190
Leu Ile His Thr	Met Gly Asp Ala His	Ile Tyr Leu Asn His Ile	
3015	3020	3025	

gat gct tta aaa	gtg cag cta gct cga	tcg cca aaa cct ttt	cct	19235
Asp Ala Leu Lys	Val Gln Leu Ala Arg	Ser Pro Lys Pro Phe	Pro	
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tgc ctt aaa att	att cga aat gta aca	gat ata aac gac ttt	aaa	19280
Cys Leu Lys Ile	Ile Arg Asn Val Thr	Asp Ile Asn Asp Phe	Lys	
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Trp Asp Asp Phe	Gln Leu Asp Gly Tyr	Asn Pro His Pro Pro	Leu	
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Lys Met Glu Met	Ala Leu			
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Met Gly Leu Phe Gly Leu Thr	
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Arg 3085	Phe	Ile	His	Glu	His 3090	Lys	Leu	Val	Lys	Pro 3095	Ser	Ile	Ile	Ser	
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cgc Arg 3250	gac Asp	caa Gln	aac Asn	gta Val	tgc Cys 3255	agt Ser	ctt Leu	acc Thr	tct Ser	aca Thr 3260	atg Met	cca Pro	tcc Ser	cga Arg	24709
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att Ile 3280	aga Arg	tgg Trp	atg Met	ggg Gly	tat Tyr 3285	gca Ala	tac Tyr	gtc Val	gag Glu	gcg Ala 3290	gtt Val	gac Asp	att Ile	gag Glu	24799
gcg Ala 3295	gac Asp	gag Glu	gca Ala	tgt Cys	gca Ala 3300	aac Asn	tta Leu	ttt Phe	cat His	acg Thr 3305	cgt Arg	aca Thr	gtg Val	gct Ala	24844
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Gln Lys Leu Leu Asp Asp Leu Ser Asn Leu Lys Val Gln Glu Ala	
	3545 3550 3555

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Asp Asn Glu Arg	Pro Trp Ser Pro Glu	Lys Thr Glu Ile Ala	Arg	
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Val Lys Val Val	Lys Phe Leu Arg Ser	Thr Gln Lys Ile Pro	Ala	
	3575	3580	3585	
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Lys His Phe Ile	Gln Ile Trp Glu Pro	Leu His Ser Asn Ile	Cys	
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Phe Val Tyr Ser	Asn Thr Phe Leu Ala	Glu Ala Ala Phe Thr	Ala	
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Glu Asn Leu Pro	Gly Leu Leu Phe Trp	Arg Leu Asp Leu Asp	Trp	
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Thr Ile Glu Glu	Pro Gly Asn Ser Leu	Lys Ile Leu Thr Gln	Leu	
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Ser Ser Val Val	Gln Asp Ser Glu Thr	Leu His Arg Leu Ser	Ala	
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Asn Lys Leu Arg	Thr Ser Ser Lys Phe	Gly Pro Val Ser Ile	His	
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Phe Ile Ile Thr	Asp Trp Ile Asn Met	Tyr Glu Val Ala Leu	Lys	
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Asp Ala Thr Thr	Ala Ile Glu Ser Pro	Phe Thr His Ala Arg	Ile	
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Ala Ile Ile Tyr	Asp Met Pro Phe Val	Gln Glu Gly Ile Arg	Val	
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Leu Thr Gln Tyr	Ala Gly Trp Leu Leu	Pro Phe Asn Val Met	Trp	
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Asn Gln Ile Gln	Asn Ser Ser Leu Thr	Pro Leu Thr Arg Ala	Leu	
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Phe Ile Ile Cys	Met Ile Asp Glu Tyr	Leu Thr Glu Thr Pro	Val	
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His Ser Ile Ser	Glu Leu Phe Ala Asp	Thr Val Asn Leu Ile	Lys	
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Asp Glu Ala Phe	Val Ser Ile Glu Glu	Ala Val Thr Asn Pro	Arg	
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Thr Val His Glu	Ser Arg Ile Ser Ser	Ala Leu Ala Tyr Arg	Asp	
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cct tat gtt ttt	gag aca tcc ccg gga	atg ctt got agg aga	ctt	31685
Pro Tyr Val Phe	Glu Thr Ser Pro Gly	Met Leu Ala Arg Arg	Leu	
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Arg Leu Asp Asn	Gly Ile Trp Glu Ser	Asn Leu Leu Ser Leu	Ser	
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Thr Pro Gly Ile	His Ile Glu Ala Leu	Leu His Leu Leu Asn	Ser	
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Asp Pro Glu Ala	Glu Thr Thr Ser Gly	Ser Asn Val Ala Glu	His	
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Thr Arg Gly Ile	Trp Glu Lys Val Gln	Ala Ser Thr Ser Pro	Ser	
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Gln Leu Val Glu	Thr Tyr Ala Pro Thr	Thr Glu Tyr Val Leu	Thr	
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Tyr Thr Arg Thr	Val Asn Glu Thr Glu	Lys Arg Tyr Glu Thr	Leu	
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Leu Pro Ala Leu	Gly Leu Pro Pro Gly	Gly Leu Gly Gln Ile	Met	
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Arg Arg Cys Phe	Ala Pro Arg Pro Leu	Ile Glu Ser Ile Gln Ala	
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Thr Arg Val Ile	Leu Leu Asn Glu Ile	Ser His Ala Glu Ala Arg	
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Glu Thr Thr Tyr	Phe Lys Gln Thr His	Asn Gln Ser Ser Gly Ala	
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Leu Leu Pro Gln	Ala Gly Gln Ser Ala	Val Arg Glu Ala Val Leu	
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Thr Trp Phe Asp	Leu Arg Met Asp Ser	Arg Trp Gly Ile Thr Pro	
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Pro Val Asp Val	Gly Met Thr Pro Pro	Ile Cys Val Asp Pro Pro	
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Ala Thr Gly Leu	Glu Ala Val Met Ile	Thr Glu Ala Leu Lys Ile	
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Ala Tyr Pro Thr	Glu Tyr Asn Arg Ser	Ser Val Phe Val Glu Pro	
4115	4120	4125	
tgc ttt gtg cct	tat att att gca aca	agc acg ctt gat gcc ctt	32585
Ser Phe Val Pro	Tyr Ile Ile Ala Thr	Ser Thr Leu Asp Ala Leu	
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Ser Ala Thr Ile	Ala Leu Ser Phe Asp	Thr Arg Gly Ile Gln Gln	
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gcc ttg tct att	ctt cag tgg gct cgc	gat tat gga tcc gga acc	32675
Ala Leu Ser Ile	Leu Gln Trp Ala Arg	Asp Tyr Gly Ser Gly Thr	
4160	4165	4170	
gtg ccc aat gca	gat gga tat cgc aca	aaa cta tct gct ctt ata	32720
Val Pro Asn Ala	Asp Gly Tyr Arg Thr	Lys Leu Ser Ala Leu Ile	
4175	4180	4185	
aca ata tta gaa	cct ttt acc cgt aca	cac ccc cca gta ctt tta	32765
Thr Ile Leu Glu	Pro Phe Thr Arg Thr	His Pro Pro Val Leu Leu	
4190	4195	4200	
cca tct cac gtt	tct act ata gat tcc	ctt ata tgc gaa ctt cat	32810
Pro Ser His Val	Ser Thr Ile Asp Ser	Leu Ile Cys Glu Leu His	
4205	4210	4215	
egg act gtt gcc	att gcc gtt gac ctg	ctt ccc cag cac gtc cgt	32855
Arg Thr Val Gly	Ile Ala Val Asp Leu	Leu Pro Gln His Val Arg	
4220	4225	4230	

cct ttg gtt cct	gac cgt cct tct	att aca aat agc gtt ttt tta	32900
Pro Leu Val Pro	Asp Arg Pro Ser Ile Thr Asn Ser Val Phe Leu		
4235	4240	4245	
gca act ctc tat	tat gat gaa ctt tac	ggc cgt tgg acc cga ctg	32945
Ala Thr Leu Tyr	Tyr Asp Glu Leu Tyr Gly Arg Trp Thr Arg Leu		
4250	4255	4260	
gat aaa ace tcg	cag gcg ttg gtt gaa	aat ttt aca tcc aac gcg	32990
Asp Lys Thr Ser	Gln Ala Leu Val Glu Asn Phe Thr Ser Asn Ala		
4265	4270	4275	
tta gtg gtt tct	cgg tac atg tta atg	tta caa aaa ttt ttt gcg	33035
Leu Val Val Ser	Arg Tyr Met Leu Met Leu Gln Lys Phe Phe Ala		
4280	4285	4290	
tgt cgt ttt tat	cca acg cca gat ctt	cag got gtt ggt atc tgt	33080
Cys Arg Phe Tyr	Pro Thr Pro Asp Leu Gln Ala Val Gly Ile Cys		
4295	4300	4305	
aac cca aag gtt	gaa cgc gat gaa caa	ttt ggg gta tgg cgt tta	33125
Asn Pro Lys Val	Glu Arg Asp Glu Gln Phe Gly Val Trp Arg Leu		
4310	4315	4320	
aac gat ctt got	gat gcg gtt ggt cat	att gtt ggg aca ata caa	33170
Asn Asp Leu Ala	Asp Ala Val Gly His Ile Val Gly Thr Ile Gln		
4325	4330	4335	
gga atc cga acg	caa atg aga gtg gga	ata tcc agc ctg cgc aca	33215
Gly Ile Arg Thr	Gln Met Arg Val Gly Ile Ser Ser Leu Arg Thr		
4340	4345	4350	
att atg gcc gat	gct tcc tca gcc ctt	agg gaa tgt gaa aat tta	33260
Ile Met Ala Asp	Ala Ser Ser Ala Leu Arg Glu Cys Glu Asn Leu		
4355	4360	4365	
atg act aaa acc	tcc act tct gct att	ggg cct ctt ttt tca acg	33305
Met Thr Lys Thr	Ser Thr Ser Ala Ile Gly Pro Leu Phe Ser Thr		
4370	4375	4380	
atg got tcc cgg	tat gca cgg ttt aca	cag gat caa atg gac att	33350
Met Ala Ser Arg	Tyr Ala Arg Phe Thr Gln Asp Gln Met Asp Ile		
4385	4390	4395	
tta atg cgt gtt	gac aaa cta aca aca	gga gaa aat ata ccc ggt	33395
Leu Met Arg Val	Asp Lys Leu Thr Thr Gly Glu Asn Ile Pro Gly		
4400	4405	4410	
ctt gca aat gta	gag att ttt tta aat	agg tgg gaa cga ata gca	33440
Leu Ala Asn Val	Glu Ile Phe Leu Asn Arg Trp Glu Arg Ile Ala		
4415	4420	4425	
aca got tgt agg	cat gcc acg gca gtc	ccg tcg gcc gaa tct att	33485
Thr Ala Cys Arg	His Ala Thr Ala Val Pro Ser Ala Glu Ser Ile		
4430	4435	4440	
gca acc gtg tgt	aat gaa ttg agg cgc	ggc tta aaa aat ata caa	33530
Ala Thr Val Cys	Asn Glu Leu Arg Arg Gly Leu Lys Asn Ile Gln		
4445	4450	4455	

gag gat cgt gta	aat gcc cca acc tca	tat atg agt cac gcc cga	33575
Glu Asp Arg Val	Asn Ala Pro Thr Ser	Tyr Met Ser His Ala Arg	
4460	4465	4470	
aat ctg gaa gat	cac aag gca gca gtt	tca ttc gtt atg gac tcc	33620
Asn Leu Glu Asp	His Lys Ala Ala Val	Ser Phe Val Met Asp Ser	
4475	4480	4485	
agg caa cag ttt	att gtg gat tct gga	cct cag atg ggc gcg gtt	33665
Arg Gln Gln Phe	Ile Val Asp Ser Gly	Pro Gln Met Gly Ala Val	
4490	4495	4500	
tta act tca caa	tgt aat ata gga aca	tgg gag aat gta aat gca	33710
Leu Thr Ser Gln	Cys Asn Ile Gly Thr	Trp Glu Asn Val Asn Ala	
4505	4510	4515	
acg ttt tta cat	gat aat gtt aaa ata	acg aca acg gtc aga gac	33755
Thr Phe Leu His	Asp Asn Val Lys Ile	Thr Thr Thr Val Arg Asp	
4520	4525	4530	
gta att tca gag	gct ccg acg ctg ata	ata gga caa aga tgg ctt	33800
Val Ile Ser Glu	Ala Pro Thr Leu Ile	Ile Gly Gln Arg Trp Leu	
4535	4540	4545	
cgt cca gat gag	att tta tct aat gta	gat ttg cgt ctt ggc gta	33845
Arg Pro Asp Glu	Ile Leu Ser Asn Val	Asp Leu Arg Leu Gly Val	
4550	4555	4560	
ccc ggg aat aca	agt ggg agt gac cct	taa tataaaacag gogtgtttat	33895
Pro Gly Asn Thr	Ser Gly Ser Asp Pro		
4565	4570		
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tgctagtatt ttcataacct	cctaggtttt tggagctaca	cgtgottatt caacgctott	34015
tgggatttga atcatcgtaa	acgtagcgtc cctaccagtt	gagcgcgtaa ttttctgaag	34075
caataaaa atg gat ata	att ccg cct ata gct gtc act	gtt gcg gga gtg	34124
Met Asp Ile Ile Pro	Pro Ile Ala Val Thr	Val Ala Gly Val	
4575	4580		
gga ago cgt aat caa ttt	gac ggt gcc ctg gga	ccg gcg tca ggt	34169
Gly Ser Arg Asn Gln Phe	Asp Gly Ala Leu Gly	Pro Ala Ser Gly	
4585	4590	4595	
ctg tca tgt tta aga aca	tct tta tct ttt ttg	cat atg aca tat	34214
Leu Ser Cys Leu Arg Thr	Ser Leu Ser Phe Leu	His Met Thr Tyr	
4600	4605	4610	
gcg cat gga att aat gca	acc ctg tca tca gac	atg att gat gga	34259
Ala His Gly Ile Asn Ala	Thr Leu Ser Ser Asp	Met Ile Asp Gly	
4615	4620	4625	
tgt tta caa gag ggt gca	gca tgg act acg gat	ctg tct aat atg	34304
Cys Leu Gln Glu Gly Ala	Ala Trp Thr Thr Asp	Leu Ser Asn Met	
4630	4635	4640	
ggg agg ggt gtc cca gat	atg tgt got ctt gtt	gat ctc ccc aat	34349

Gly 4645	Arg	Gly	Val	Pro	Asp 4650	Met	Cys	Ala	Leu	Val 4655	Asp	Leu	Pro	Asn	
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Arg 4660	Ile	Ser	Tyr	Ile	Lys 4665	Leu	Gly	Asp	Thr	Thr 4670	Ser	Thr	Cys	Cys	
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Val 4675	Leu	Ser	Arg	Ile	Tyr 4680	Gly	Asp	Ser	His	Phe 4685	Phe	Thr	Val	Pro	
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Asp 4690	Glu	Gly	Phe	Met	Cys 4695	Thr	Gln	Ile	Pro	Ala 4700	Arg	Ala	Phe	Phe	
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Asp 4705	Asp	Val	Trp	Met	Gly 4710	Arg	Glu	Glu	Ser	Tyr 4715	Thr	Ile	Ile	Thr	
gta	gac	tca	acg	gga	atg	gcc	atc	tat	cgt	cag	gga	aac	ata	tct	34574
Val 4720	Asp	Ser	Thr	Gly	Met 4725	Ala	Ile	Tyr	Arg	Gln 4730	Gly	Asn	Ile	Ser	
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Phe 4735	Ile	Phe	Asp	Pro	His 4740	Gly	His	Gly	Thr	Ile 4745	Gly	Gln	Ala	Val	
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Val 4750	Val	Arg	Val	Asn	Thr 4755	Thr	Asp	Val	Tyr	Ser 4760	Tyr	Ile	Ala	Ser	
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Ala 4780	Leu	Val	Phe	Phe	Val 4785	Thr	Ala	Asn	Asp	Gly 4790	Pro	Val	Ser	Glu	
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Glu 4795	Ala	Leu	Ser	Ser	Ala 4800	Val	Thr	Leu	Ile	Tyr 4805	Gly	Ser	Cys	Asp	
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Thr 4810	Tyr	Phe	Thr	Asp	Glu 4815	Gln	Tyr	Cys	Glu	Lys 4820	Leu	Val	Thr	Ala	
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Gln 4825	His	Pro	Leu	Leu	Leu 4830	Ser	Pro	Pro	Asn	Ser 4835	Thr	Thr	Ile	Val	
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Ser 4855	Val	Ser	Leu	Glu	Ala 4860	Thr	Leu	His	Ser	Thr 4865	Leu	Thr	Asn	Thr	
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Val 4870	Ala	Leu	Asp	Pro	Arg 4875	Cys	Ser	Tyr	Ser	Glu 4880	Val	Asp	Pro	Trp	
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	Arg	Arg	Arg	Arg	Arg	Pro	Ser	Trp	Thr	Pro	Pro	Ser	Ser	Glu	
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	Asn	Leu	Ala	Cys	Ile	Asp	Asp	Gly	Leu	Val	Asn	Asn	Thr	His	
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	Thr	Asp	Asn	Leu	His	Lys	Pro	Ala	Lys	Lys	Val	Leu	Lys	Phe	
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	Phe	Glu	Gln	Ser	Gly	Asp	Val	Asn	Met	Val	Val	Glu	Lys	Leu	
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	Gly	Thr	Leu	Asp	Thr	Val	Ile	Thr	Gly	His	Thr	Asn	Val	Pro	
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	Glu	Leu	Phe	Ile	Asn	Leu	Thr	Ile	Leu	Arg	Leu	Thr	Gly	Phe	
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	Val	Glu	Asn	Gly	Thr	Arg	Thr	His	His	Gly	Ala	Thr	Ser	Val	
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Val 5095	Ser	Asp	Phe	Ile	Gly 5100	Pro	Leu	Gly	Glu	Ile 5105	Leu	Thr	Gly	Phe	
ccc Pro 5110	tcc Ser	gcc Ala	gcg Ala	gaa Glu	ctt Leu 5115	ata Ile	cgc Arg	gtt Val	aca Thr	agt Ser 5120	ttg Leu	ata Ile	tta Leu	aca Thr	35744
aac Asn 5125	atg Met	cgc Pro	ggg Gly	gcg Ala	gaa Glu 5130	tat Tyr	gct Ala	att Ile	aaa Lys	act Thr 5135	gtt Val	ctc Leu	cgg Arg	aaa Lys	35789
aaa Lys 5140	tgt Cys	aca Thr	att Ile	ggc Gly	atg Met 5145	ctc Leu	att Ile	atc Ile	gct Ala	aag Lys 5150	ttt Phe	ggg Gly	cta Leu	gtt Val	35834
gcc Ala 5155	atg Met	cgg Arg	gtt Val	cag Gln	gat Asp 5160	aca Thr	acc Thr	ggc Gly	gct Ala	tta Leu 5165	cat His	gcc Ala	gaa Glu	cta Leu	35879
gat Asp 5170	gtg Val	tta Leu	gaa Glu	gcg Ala	gat Asp 5175	cta Leu	gga Gly	ggg Gly	tgc Ser	tgc Ser 5180	ccc Pro	ata Ile	gac Asp	ctc Leu	35924
tat Tyr 5185	tct Ser	aga Arg	ctg Leu	tgc Ser	aca Thr 5190	ggg Gly	ctt Leu	ata Ile	agt Ser	ata Ile 5195	cta Leu	aat Asn	tgc Ser	cct Pro	35969
att Ile 5200	att Ile	tct Ser	cat His	ccc Pro	gga Gly 5205	ctt Leu	ttt Phe	ggc Ala	gag Glu	ctt Leu 5210	att Ile	cca Pro	acc Thr	cgt Arg	36014
aca Thr 5215	ggg Gly	tcc Ser	ctg Leu	tct Ser	gaa Glu 5220	cga Arg	ata Ile	cgt Arg	ctt Leu	ctt Leu 5225	tgt Cys	gaa Glu	tta Leu	gtc Val	36059
tgc Ser 5230	gcc Ala	cgg Arg	gag Glu	aca Thr	cgc Arg 5235	tat Tyr	atg Met	cgt Arg	gaa Glu	cac His 5240	acc Thr	gcg Ala	ott Leu	gtt Val	36104
tct Ser 5245	agt Ser	gta Val	aag Lys	gct Ala	tta Leu 5250	gag Glu	aat Asn	gca Ala	tta Leu	cgg Arg 5255	tct Ser	acc Thr	cgc Arg	aat Asn	36149
aaa Lys 5260	att Ile	gat Asp	gcc Ala	att Ile	caa Gln 5265	ata Ile	cca Pro	gaa Glu	gtt Val	ccc Pro 5270	cag Gln	gaa Glu	ccc Pro	ccg Pro	36194
gaa Glu 5275	gaa Glu	acc Thr	gac Asp	att Ile	cca Pro 5280	ccc Pro	gaa Glu	gag Glu	tta Leu	att Ile 5285	cgg Arg	cgt Arg	gta Val	tat Tyr	36239
gag Glu 5290	ata Ile	cga Arg	tcc Ser	gaa Glu	gtt Val 5295	aca Thr	atg Met	cta Leu	ttg Leu	acc Thr 5300	tgc Ser	gct Ala	gtt Val	aca Thr	36284
gaa Glu 5305	tac Tyr	ttc Phe	acc Thr	cgc Arg	gga Gly 5310	gtg Val	tta Leu	tat Tyr	agc Ser	aca Thr 5315	cgg Arg	gcc Ala	ttg Leu	atc Ile	36329
gct	gaa	caa	tcc	cct	agg	cgt	ttt	cgg	gtc	gcg	acc	gca	agt	acg	36374

Ala	Glu	Gln	Ser	Pro	Arg	Arg	Phe	Arg	Val	Ala	Thr	Ala	Ser	Thr		
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Ala	Pro	Ile	Gln	Arg	Leu	Leu	Asp	Ser	Leu	Pro	Glu	Phe	Asp	Ala		
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Lys	Leu	Thr	Ala	Ile	Ile	Ser	Ser	Leu	Ser	Ile	His	Pro	Pro	Pro		
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Glu	Thr	Ile	Gln	Asn	Leu	Pro	Val	Val	Ser	Leu	Leu	Lys	Glu	Leu		
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Ile	Lys	Glu	Gly	Glu	Asp	Leu	Asn	Thr	Asp	Thr	Ala	Leu	Val	Ser		
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Thr	Arg	Ala	Thr	Gln	Arg	Ala	Ser	Ala	Glu	Ala	Glu	Leu	Ser	Cys		
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Phe	Asn	Thr	Leu	Ser	Ala	Ala	Val	Asp	Gln	Ala	Val	Lys	Asp	Tyr		
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Asp	Asp	Leu	Leu	Ala	Thr	Ile	Val	Arg	Ala	Thr	Asp	Asp	Leu	Val		
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Gln	Pro	Ser	Ile	Lys	Arg	Arg	Leu	Glu	Thr	Arg	Leu	Lys	Glu	Val		
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Gln	Thr	Tyr	Ala	Asn	Glu	Ala	Arg	Thr	Thr	Gln	Asp	Thr	Ile	Lys		
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Ser	Arg	Lys	Gln	Ala	Ala	Tyr	Asn	Lys	Leu	Gly	Gly	Leu	Leu	Arg		
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Pro	Val	Thr	Gly	Phe	Val	Gly	Leu	Arg	Ala	Ala	Val	Asp	Leu	Leu	
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Pro	Glu	Leu	Ala	Ser	Glu	Leu	Asp	Val	Gln	Gly	Ala	Leu	Val	Asn	
5560					5565					5570					
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5575					5580					5585					
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5590					5595					5600					
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Gly	Ala	Cys	Phe	Thr	Ala	Ile	Ile	Glu	Ile	Val	Pro	Ile	Pro	Thr	
5620					5625					5630					
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Glu	Ser	Ala	Ile	Asn	Ala	Val	Val	Ala	Thr	Leu	Ser	Lys	Ala	Thr	
5665					5670					5675					
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Leu	Val	Ser	Ser	Thr	Val	Pro	Ala	Leu	Ser	Phe	Val	Leu	Ser	Leu	
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Tyr	Lys	Lys	Tyr	Gln	Ala	Leu	Gln	Gln	Glu	Ile	Thr	Asn	Thr	His	
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Lys	Leu	Thr	Glu	Leu	Gln	Lys	Gln	Leu	Gly	Asp	Asp	Phe	Ser	Thr	
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Asn	Val	His	Ala	Leu	Met	Asp	Thr	Val	Lys	Leu	Val	Glu	Val	Glu	
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Leu	Gln	Lys	Leu	Pro	Pro	His	Cys	Ile	Ala	Gly	Thr	Ser	Thr	Leu	
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Ser	Arg	Val	Val	Lys	Asp	Leu	His	Lys	Leu	Val	Thr	Met	Ala	His	
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Ala	His	Lys	Gln	Gln	Thr	Thr	Arg	Val	Leu	Tyr	Glu	Arg	Trp	Thr	
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Gly	Tyr	Val	Asp	Phe	Tyr	Thr	Arg	Ser	Tyr	Asp	Gln	Phe	Ile	Thr	
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Glu 5995	Ser	Val	Thr	Leu	Ser 6000	Glu	Leu	Arg	Ala	Asp 6005	Ile	Arg	Gln	Ala	
gcc Ala 6010	ggg Gly	gct Ala	aaa Lys	ctt Leu	aca Thr 6015	gaa Glu	gca Ala	aat Asn	aag Lys	gct Ala 6020	ttg Leu	gag Glu	gaa Glu	gta Val	38444
act Thr 6025	cat His	gtt Val	cgg Arg	gca Ala	cac His 6030	gaa Glu	acg Thr	gct Ala	aaa Lys	ctt Leu 6035	gca Ala	ctt Leu	aaa Lys	gaa Glu	38489
ggg Gly 6040	gtc Val	ttc Phe	att Ile	aca Thr	tta Leu 6045	cca Pro	agc Ser	gaa Glu	ggg Gly	tta Leu 6050	ttg Leu	att Ile	cgg Arg	gct Ala	38534
ata Ile 6055	gag Glu	tat Tyr	ttt Phe	aca Thr	act Thr 6060	ttc Phe	gat Asp	cat His	aaa Lys	cga Arg 6065	ttt Phe	ata Ile	gga Gly	acg Thr	38579
gca Ala 6070	tat Tyr	gaa Glu	aga Arg	gtt Val	tta Leu 6075	caa Gln	aca Thr	atg Met	gta Val	gac Asp 6080	cgc Arg	gat Asp	cta Leu	aag Lys	38624
gag Glu 6085	gcc Ala	aac Asn	gca Ala	gag Glu	ctt Leu 6090	gca Ala	cag Gln	ttt Phe	cgt Arg	atg Met 6095	gtg Val	tgt Cys	cag Gln	gca Ala	38669
aca Thr 6100	aag Lys	aac Asn	cgt Arg	gca Ala	ata Ile 6105	caa Gln	att Ile	tta Leu	caa Gln	aac Asn 6110	att Ile	gtt Val	gat Asp	acg Thr	38714
gcc Ala 6115	aat Asn	gcc Ala	act Thr	gag Glu	caa Gln 6120	caa Gln	gaa Glu	gac Asp	gtg Val	gat Asp 6125	ttc Phe	act Thr	aac Asn	ctg Leu	38759
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gcc Ala 6145	att Ile	gat Asp	aga Arg	tct Ser	act Thr 6150	tcc Ser	gtt Val	cag Gln	gac Asp	att Ile 6155	gtc Val	acg Thr	cag Gln	ttt Phe	38849
gca Ala 6160	ttg Leu	ctg Leu	tta Leu	ggg Gly	cgt Arg 6165	ctg Leu	gaa Glu	gaa Glu	gaa Glu	act Thr 6170	ggg Gly	acg Thr	ttg Leu	gac Asp	38894
att Ile 6175	cag Gln	gcg Ala	gtt Val	gac Asp	tgg Trp 6180	atg Met	tac Tyr	caa Gln	gct Ala	cgc Arg 6185	aat Asn	att Ile	att Ile	gac Asp	38939
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act Thr 6205	tat Tyr	aaa Lys	gat Asp	agg Arg	gtg Val 6210	gat Asp	aaa Lys	ctt Leu	tat Tyr	gcg Ala 6215	tta Leu	cga Arg	act Thr	aaa Lys	39029
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gca Ala 6250	tcg Ser	ggg Gly	gac Asp	acg Thr	tac Tyr 6255	gct Ala	act Thr	tcc Ser	gta Val	gat Asp 6260	agt Ser	ata Ile	aag Lys	gca Ala	39164
ctc Leu 6265	cag Gln	gca Ala	tcg Ser	gcg Ala	tct Ser 6270	gtg Val	gtt Val	gac Asp	atg Met	ctt Leu 6275	tgt Cys	tcc Ser	gaa Glu	ccc Pro	39209
gaa Glu 6280	ttt Phe	ttt Phe	tta Leu	ttg Leu	cct Pro 6285	gtg Val	gaa Glu	acg Thr	aaa Lys	aac Asn 6290	cgt Arg	ctc Leu	caa Gln	aaa Lys	39254
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caa Gln 6310	aga Arg	cag Gln	ttt Phe	gaa Glu	gag Glu 6315	acc Thr	gcg Ala	tct Ser	cgc Arg	tta Leu 6320	cga Arg	gct Ala	tta Leu	att Ile	39344
gaa Glu 6325	cgt Arg	att Ile	cca Pro	acg Thr	gag Glu 6330	agt Ser	gac Asp	cat His	gac Asp	gtt Val 6335	ctt Leu	cgt Arg	atg Met	tta Leu	39389
tta Leu 6340	cgt Arg	gat Asp	tto Phe	gat Asp	caa Gln 6345	ttt Phe	aca Thr	cat His	ttg Leu	cct Pro 6350	ata Ile	tgg Trp	ata Ile	aaa Lys	39434
aca Thr 6355	cag Gln	tat Tyr	atg Met	aca Thr	ttt Phe 6360	cga Arg	aat Asn	tta Leu	ctc Leu	atg Met 6365	gta Val	cgg Arg	tta Leu	ggc Gly	39479
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ccg Pro 6475	gca Ala	ctt Leu	ccc Pro	gat Asp	gaa Glu 6480	ggt Gly	att Ile	gtg Val	gaa Glu	gaa Glu 6485	act Thr	aca Thr	cta Leu	tcg Ser	39839
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caa Gln 6550	tac Tyr	ggg Gly	gtt Val	cat His	tgg Trp 6555	gac Asp	aag Lys	ctt Leu	att Ile	tat Tyr 6560	tct Ser	ttt Phe	gaa Glu	aaa Lys	40064
cac His 6565	cac His	cta Leu	act Thr	tct Ser	gta Val 6570	atg Met	ggc Gly	aat Asn	gga Gly	cta Leu 6575	act Thr	aaa Lys	cca Pro	atc Ile	40109
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Pro 6895	His	Pro	Ile	Glu	Asn 6900	Ala	Cys	Leu	Ile	Val 6905	Gln	Leu	Glu	Lys	
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Leu 6910	Ser	Ala	Leu	Ile	Ala 6915	Asn	Lys	Pro	Leu	Thr 6920	Asn	Asn	Pro	Pro	
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Cys 6925	Leu	Leu	Leu	Leu	Asp 6930	Glu	His	Met	Asn	Pro 6935	Ser	Tyr	Val	Leu	
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Val 7015	Val	Arg	Ser	Ser	Lys 7020	Cys	Lys	Lys	Met	Pro 7025	Val	Arg	Pro	Ala	
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Gln 7030	Pro	Ala	Gln	Pro	Ala 7035	Gln	Pro	Ala	Gln	Pro 7040	Ala	Gln	Thr	Val	
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Gln 7045	Pro	Ala	Gln	Pro	Ile 7050	Glu	Pro	Gly	Thr	Gln 7055	Ile	Val	Val	Gln	
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Asn 7060	Phe	Lys	Lys	Pro	Gln 7065	Ser	Val	Lys	Thr	Thr 7070	Leu	Ser	Gln	Lys	
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Ile 7090	Pro	Lys	Gln	Leu	Thr 7095	Thr	Ser	Ile	Lys	Thr 7100	Thr	Val	Cys	Lys	
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Ser 7105	Ile	Thr	Pro	Pro	Asn 7110	Asn	Gln	Leu	Ser	Asp 7115	Trp	Lys	Asn	Asn	
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Pro 7120	Gln	Gln	Asn	Gln	Thr 7125	Leu	Asn	Gln	Ala	Phe 7130	Ser	Lys	Pro	Ile	
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7165					7170					7175					
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	7460 7465 7470
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	7475 7480 7485
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	7490 7495 7500
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Cys Met Leu Cys Cys	Leu Leu Thr Ile Gly	His Tyr Trp Ile Ala	
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Leu Arg Gln Phe Lys	Arg Asp Ile Leu Ala	Tyr Ser Ala Asn Asn	
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Leu Asp Asn Pro Ile	Lys Leu Lys Phe Pro	Phe Asn Asp Glu Gly	
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Arg Phe Ile Thr Ile	Val Lys Ala Ala Gly	Ser Glu Ala Val Tyr	
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Lys His Leu Phe Cys	Asp Leu Leu Cys Ala	Leu Ser Glu Leu Gln	
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Thr Asn Pro Lys Ile	Leu Phe Ala His Pro	Thr Thr Ala Asp Lys	
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Phe Glu Gly Arg Val	Cys Ala Gly Leu Trp	Thr Leu Ala Tyr Ala	
7865	7870	7875	
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Phe Lys Ala Tyr Gln	Ile Phe Pro Arg Lys	Pro Thr Ala Asn Ala	
7880	7885	7890	
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Ala Phe Ile Arg Asp	Gly Gly Leu Met Leu	Arg Arg His Ala Ile	
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Pro	Arg	Val	Ala	Cys	Arg	Phe	Leu	Tyr	Arg	Leu	Ala	Ala	Asn	Cys	
		9155					9160						9165		

ttg aca gtt	cgt tat tta tta aag	ctg ttt ctc cgg gga	ttt aat	54830
Leu Thr Val	Arg Tyr Leu Leu Lys	Leu Phe Leu Arg Gly	Phe Asn	
9170	9175	9180		
acc cag cta	aaa ttt gga aac act	ccc acg gtt tgt gca	ctg cat	54875
Thr Gln Leu	Lys Phe Gly Asn Thr	Pro Thr Val Cys Ala	Leu His	
9185	9190	9195		
tgg gca tta	tgt tat gta aag gga	gaa ggt gag cgt ttg	ttt gag	54920
Trp Ala Leu	Cys Tyr Val Lys Gly	Glu Gly Glu Arg Leu	Phe Glu	
9200	9205	9210		
ttg cta caa	cat ttt aaa acg cgt	ttt gtt tat ggt gag	act aaa	54965
Leu Leu Gln	His Phe Lys Thr Arg	Phe Val Tyr Gly Glu	Thr Lys	
9215	9220	9225		
gac tca aac	tgt atc aaa gat tac	ttt gtc tca gcg ttt	aac tta	55010
Asp Ser Asn	Cys Ile Lys Asp Tyr	Phe Val Ser Ala Phe	Asn Leu	
9230	9235	9240		
aaa acc tgc	caa tat cac cat gag	ctg tcg tta aca aca	tac gga	55055
Lys Thr Cys	Gln Tyr His His Glu	Leu Ser Leu Thr Thr	Tyr Gly	
9245	9250	9255		
ggc tac gta	tcg agt gaa att cag	ttt tta cac gac att	gag aat	55100
Gly Tyr Val	Ser Ser Glu Ile Gln	Phe Leu His Asp Ile	Glu Asn	
9260	9265	9270		
ttt tta aaa	cag ctt aat tac tgc	tat att atc acg tct	tct cgt	55145
Phe Leu Lys	Gln Leu Asn Tyr Cys	Tyr Ile Ile Thr Ser	Ser Arg	
9275	9280	9285		
gag gcg cta	aac aca ttg gaa acc	gtg acg cgg ttt atg	aca gat	55190
Glu Ala Leu	Asn Thr Leu Glu Thr	Val Thr Arg Phe Met	Thr Asp	
9290	9295	9300		
act ata gga	agc ggt cta ata cca	ccc gtg gag ttg ttt	gat cgg	55235
Thr Ile Gly	Ser Gly Leu Ile Pro	Pro Val Glu Leu Phe	Asp Pro	
9305	9310	9315		
gcg cat cca	tgt gct ata tgt ttt	gaa gaa tta tgt ata	aca gct	55280
Ala His Pro	Cys Ala Ile Cys Phe	Glu Glu Leu Cys Ile	Thr Ala	
9320	9325	9330		
aac caa ggt	gag acc tta cat cgt	aga tta tta gga tgt	atc tgc	55325
Asn Gln Gly	Glu Thr Leu His Arg	Arg Leu Leu Gly Cys	Ile Cys	
9335	9340	9345		
gat cac gtt	act aag caa gtt cgg	gtt aac gtg gat gtt	gac gat	55370
Asp His Val	Thr Lys Gln Val Arg	Val Asn Val Asp Val	Asp Asp	
9350	9355	9360		
att att cgg	tgt tta cca tat atc	cct gat gta ccg gat	atc aaa	55415
Ile Ile Arg	Cys Leu Pro Tyr Ile	Pro Asp Val Pro Asp	Ile Lys	
9365	9370	9375		
cgt caa tcc	gcc gtt gaa gcg tta	cga aca ctt caa acc	aag acg	55460
Arg Gln Ser	Ala Val Glu Ala Leu	Arg Thr Leu Gln Thr	Lys Thr	
9380	9385	9390		

gta gtc aat	ccc atg gga gca aag	aac gat acg ttt gac	caa aca	55505
Val Val Asn	Pro Met Gly Ala Lys	Asn Asp Thr Phe Asp	Gln Thr	
9395	9400	9405		
tac gaa att	gcg agc acc atg ctt	gat tct tat aat gtt	ttt aaa	55550
Tyr Glu Ile	Ala Ser Thr Met Leu	Asp Ser Tyr Asn Val	Phe Lys	
9410	9415	9420		
cct gcc cct	cgg tgt atg tac gcc	atc agc gag ctt aaa	ttc tgg	55595
Pro Ala Pro	Arg Cys Met Tyr Ala	Ile Ser Glu Leu Lys	Phe Trp	
9425	9430	9435		
tta acg tct	aat tcc act gaa gga	ccc caa cgt act tta	gac gtg	55640
Leu Thr Ser	Asn Ser Thr Glu Gly	Pro Gln Arg Thr Leu	Asp Val	
9440	9445	9450		
ttt gtt gat	aat ttg gat gta tta	aac gaa cat gaa aaa	cac gca	55685
Phe Val Asp	Asn Leu Asp Val Leu	Asn Glu His Glu Lys	His Ala	
9455	9460	9465		
gaa ctt aca	gcc gta acg gtt gag	ttg gcg tta ttt gga	aaa act	55730
Glu Leu Thr	Ala Val Thr Val Glu	Leu Ala Leu Phe Gly	Lys Thr	
9470	9475	9480		
ccc ata cac	ttt gat agg gcg ttt	tct gaa gaa ctc gga	tct ctg	55775
Pro Ile His	Phe Asp Arg Ala Phe	Ser Glu Glu Leu Gly	Ser Leu	
9485	9490	9495		
gat gca att	gat agt att ttg gtt	ggc aat cgc tca tcc	tca cca	55820
Asp Ala Ile	Asp Ser Ile Leu Val	Gly Asn Arg Ser Ser	Ser Pro	
9500	9505	9510		
gac agt cag	ata gaa gca tta att	aaa gcc tgt tat gcc	cat cat	55865
Asp Ser Gln	Ile Glu Ala Leu Ile	Lys Ala Cys Tyr Ala	His His	
9515	9520	9525		
cta tcg tcg	cct ctc atg cgt cac	att tct aac ccg agt	cat gat	55910
Leu Ser Ser	Pro Leu Met Arg His	Ile Ser Asn Pro Ser	His Asp	
9530	9535	9540		
aac gaa gcc	gcc tta cgc caa ctt	tta gaa aga gtt ggg	tgt gag	55955
Asn Glu Ala	Ala Leu Arg Gln Leu	Leu Glu Arg Val Gly	Cys Glu	
9545	9550	9555		
gat gat tta	acc aaa gag gcg agt	gac agc gct aca gca	tcc gaa	56000
Asp Asp Leu	Thr Lys Glu Ala Ser	Asp Ser Ala Thr Ala	Ser Glu	
9560	9565	9570		
tgt gat ctg	aac gat gat agt agc	ata act ttt gct gtt	cat gga	56045
Cys Asp Leu	Asn Asp Asp Ser Ser	Ile Thr Phe Ala Val	His Gly	
9575	9580	9585		
tgg gaa aac	ctg tta tcc aaa gca	aaa att gac gct gcg	gaa aga	56090
Trp Glu Asn	Leu Leu Ser Lys Ala	Lys Ile Asp Ala Ala	Glu Arg	
9590	9595	9600		
aaa cga gta	tat ctt gaa cat ctg	tct aag cgc tct cta	acc agc	56135
Lys Arg Val	Tyr Leu Glu His Leu	Ser Lys Arg Ser Leu	Thr Ser	
9605	9610	9615		

ctc ggt aga	tgt atc cgc gaa cag	cgc caa gag cta gaa	aaa aca	56180
Leu Gly Arg	Cys Ile Arg Glu Gln	Arg Gln Glu Leu Glu	Lys Thr	
9620	9625	9630		
ctc agg gta	aac gtt tat gga gag	gcc tta ttg cag aca	ttt gtt	56225
Leu Arg Val	Asn Val Tyr Gly Glu	Ala Leu Leu Gln Thr	Phe Val	
9635	9640	9645		
tcg atg caa	aat ggg ttt ggg gca	cga aac gtg ttt tta	gct aag	56270
Ser Met Gln	Asn Gly Phe Gly Ala	Arg Asn Val Phe Leu	Ala Lys	
9650	9655	9660		
gtt tcc cag	gca ggg tgt att atc	gac aat cgc att cag	gaa gcg	56315
Val Ser Gln	Ala Gly Cys Ile Ile	Asp Asn Arg Ile Gln	Glu Ala	
9665	9670	9675		
gcc ttt gat	gca cat aga ttt ata	agg aat acc tta gtt	cga cat	56360
Ala Phe Asp	Ala His Arg Phe Ile	Arg Asn Thr Leu Val	Arg His	
9680	9685	9690		
aca gta gat	gcg gct atg tta cct	gca ctt aca cat aaa	ttt ttt	56405
Thr Val Asp	Ala Ala Met Leu Pro	Ala Leu Thr His Lys	Phe Phe	
9695	9700	9705		
gag ttg gtc	aac ggc cca ttg ttt	aat cac gat gaa cac	cgt ttt	56450
Glu Leu Val	Asn Gly Pro Leu Phe	Asn His Asp Glu His	Arg Phe	
9710	9715	9720		
gca caa ccc	cct aac acc gcc tta	ttt ttt acc gtg gaa	aac gtt	56495
Ala Gln Pro	Pro Asn Thr Ala Leu	Phe Phe Thr Val Glu	Asn Val	
9725	9730	9735		
ggc cta ttt	cgc cac tta aaa gag	gaa ttg gca aag ttt	atg ggc	56540
Gly Leu Phe	Pro His Leu Lys Glu	Glu Leu Ala Lys Phe	Met Gly	
9740	9745	9750		
ggg gtc gtt	ggg tcc aac tgg ctt	ctc agt cca ttt agg	ggc ttt	56585
Gly Val Val	Gly Ser Asn Trp Leu	Leu Ser Pro Phe Arg	Gly Phe	
9755	9760	9765		
tat tgc ttt	tct ggg gta gaa ggc	gtt act ttt gca cag	aga ctt	56630
Tyr Cys Phe	Ser Gly Val Glu Gly	Val Thr Phe Ala Gln	Arg Leu	
9770	9775	9780		
gcc tgg aaa	tat att agg gag ctt	gtg ttt gca acc aca	cta ttc	56675
Ala Trp Lys	Tyr Ile Arg Glu Leu	Val Phe Ala Thr Thr	Leu Phe	
9785	9790	9795		
acc tct gtt	ttc cat tgt ggg gag	gtg cgg tta tgt cgc	gtt gac	56720
Thr Ser Val	Phe His Cys Gly Glu	Val Arg Leu Cys Arg	Val Asp	
9800	9805	9810		
cgt cta ggt	aag gat cca cgc ggg	tgc acg tct caa cct	aaa ggt	56765
Arg Leu Gly	Lys Asp Pro Arg Gly	Cys Thr Ser Gln Pro	Lys Gly	
9815	9820	9825		
ata ggc agt	tcc cac gga ccc tta	gac ggc att tat tta	acg tac	56810
Ile Gly Ser	Ser His Gly Pro Leu	Asp Gly Ile Tyr Leu	Thr Tyr	
9830	9835	9840		

gaa gaa aca	tgt ccc ctt gtg gct	att att caa agt gga	gaa aca	56855
Glu Glu Thr	Cys Pro Leu Val Ala	Ile Ile Gln Ser Gly	Glu Thr	
9845	9850	9855		
ggg atc gac	cag aat acc gtc gta	atc tac gat tca gac	gtt ttt	56900
Gly Ile Asp	Gln Asn Thr Val Val	Ile Tyr Asp Ser Asp	Val Phe	
9860	9865	9870		
tct ctt cta	tac acc cta atg cag	cgg ctg gct ccg gat	tca acg	56945
Ser Leu Leu	Tyr Thr Leu Met Gln	Arg Leu Ala Pro Asp	Ser Thr	
9875	9880	9885		
gac ccg gcg	ttt tca taa cctccgtttac	gggggtgtgg	ttatgctttt	56993
Asp Pro Ala	Phe Ser			
9890				
tatgcataatt	ttct atg ttt gtt	acg gcg gtt gtg tcg	gtc tct cca agc	57043
	Met Phe Val	Thr Ala Val Val Ser	Val Ser Pro Ser	
	9895	9900		
tcg ttt tat	gag agt tta	caa gta gag ccc aca	caa tca gaa gat	57088
Ser Phe Tyr	Glu Ser Leu	Gln Val Glu Pro Thr	Gln Ser Glu Asp	
9905	9910	9915		
ata acc cgg	tct gct cat	ctg ggc gat ggt gat	gaa atc aga gaa	57133
Ile Thr Arg	Ser Ala His	Leu Gly Asp Gly Asp	Glu Ile Arg Glu	
9920	9925	9930		
gct ata cac	aag tcc cag	gac gcc gaa aca aaa	ccc acg ttt tac	57178
Ala Ile His	Lys Ser Gln	Asp Ala Glu Thr Lys	Pro Thr Phe Tyr	
9935	9940	9945		
gtc tgc cca	ccg cca aca	ggc tcc aca atc gta	cga tta gaa cca	57223
Val Cys Pro	Pro Pro Thr	Gly Ser Thr Ile Val	Arg Leu Glu Pro	
9950	9955	9960		
act cgg aca	tgt ccg gat	tat cac ctt ggt aaa	aac ttt aca gag	57268
Thr Arg Thr	Cys Pro Asp	Tyr His Leu Gly Lys	Asn Phe Thr Glu	
9965	9970	9975		
ggt att gct	gtt gtt tat	aaa gaa aac att gca	gcg tac aag ttt	57313
Gly Ile Ala	Val Val Tyr	Lys Glu Asn Ile Ala	Ala Tyr Lys Phe	
9980	9985	9990		
aag gcg acg	gta tat tac	aaa gat gtt atc gtt	agc acg gcg tgg	57358
Lys Ala Thr	Val Tyr Tyr	Lys Asp Val Ile Val	Ser Thr Ala Trp	
9995	10000	10005		
gcc gga agt	tct tat acg	caa att act aat aga	tat gcg gat agg	57403
Ala Gly Ser	Ser Tyr Thr	Gln Ile Thr Asn Arg	Tyr Ala Asp Arg	
10010	10015	10020		
gta cca att	ccc gtt tca	gag atc acg gac acc	att gat aag ttt	57448
Val Pro Ile	Pro Val Ser	Glu Ile Thr Asp Thr	Ile Asp Lys Phe	
10025	10030	10035		
ggc sag tgt	tct tct aaa	gca acg tac gta cga	aat aac cac aac	57493
Gly Lys Cys	Ser Ser Lys	Ala Thr Tyr Val Arg	Asn Asn His Lys	
10040	10045	10050		

gtt	gaa	gcc	ttt	aat	gag	gat	aaa	aat	cca	cag	gat	atg	cct	cta	57538
Val	Glu	Ala	Phe	Asn	Glu	Asp	Lys	Asn	Pro	Gln	Asp	Met	Pro	Leu	
10055					10060					10065					
atc	gca	tca	aaa	tat	aat	tct	gtg	gga	tcc	aaa	gca	tgg	cat	act	57583
Ile	Ala	Ser	Lys	Tyr	Asn	Ser	Val	Gly	Ser	Lys	Ala	Trp	His	Thr	
10070					10075					10080					
acc	aat	gac	acg	tac	atg	gtt	gcc	gga	acc	ccc	gga	aca	tat	agg	57628
Thr	Asn	Asp	Thr	Tyr	Met	Val	Ala	Gly	Thr	Pro	Gly	Thr	Tyr	Arg	
10085					10090					10095					
acg	ggc	acg	tcg	gtg	aat	tgc	atc	att	gag	gaa	gtt	gaa	gcc	aga	57673
Thr	Gly	Thr	Ser	Val	Asn	Cys	Ile	Ile	Glu	Glu	Val	Glu	Ala	Arg	
10100					10105					10110					
tca	ata	ttc	cct	tat	gat	agt	ttt	gga	ctt	tcc	acg	gga	gat	ata	57718
Ser	Ile	Phe	Pro	Tyr	Asp	Ser	Phe	Gly	Leu	Ser	Thr	Gly	Asp	Ile	
10115					10120					10125					
ata	tac	atg	tcc	ccg	ttt	ttt	ggc	cta	cgg	gat	ggg	gca	tac	aga	57763
Ile	Tyr	Met	Ser	Pro	Phe	Phe	Gly	Leu	Arg	Asp	Gly	Ala	Tyr	Arg	
10130					10135					10140					
gaa	cat	tcc	aat	tat	gca	atg	gat	cgt	ttt	cac	cag	ttt	gag	ggg	57808
Glu	His	Ser	Asn	Tyr	Ala	Met	Asp	Arg	Phe	His	Gln	Phe	Glu	Gly	
10145					10150					10155					
tat	aga	caa	agg	gat	ctt	gac	act	aga	gca	tta	ctg	gaa	cct	gca	57853
Tyr	Arg	Gln	Arg	Asp	Leu	Asp	Thr	Arg	Ala	Leu	Leu	Glu	Pro	Ala	
10160					10165					10170					
gcg	cgg	aac	ttt	tta	gtc	acg	cct	cat	tta	acg	gtt	ggg	tgg	aac	57898
Ala	Arg	Asn	Phe	Leu	Val	Thr	Pro	His	Leu	Thr	Val	Gly	Trp	Asn	
10175					10180					10185					
tgg	aag	cca	aaa	cga	acg	gaa	gtt	tgt	tcg	ctt	gtc	aag	tgg	cgt	57943
Trp	Lys	Pro	Lys	Arg	Thr	Glu	Val	Cys	Ser	Leu	Val	Lys	Trp	Arg	
10190					10195					10200					
gag	gtt	gaa	gac	gta	gtt	cgc	gat	gag	tat	gca	cac	aat	ttt	cgc	57988
Glu	Val	Glu	Asp	Val	Val	Arg	Asp	Glu	Tyr	Ala	His	Asn	Phe	Arg	
10205					10210					10215					
ttt	aca	atg	aaa	aca	ctt	tct	acc	acg	ttt	ata	agt	gaa	aca	aac	58033
Phe	Thr	Met	Lys	Thr	Leu	Ser	Thr	Thr	Phe	Ile	Ser	Glu	Thr	Asn	
10220					10225					10230					
gag	ttt	aat	ctt	aac	caa	atc	cat	ctc	agt	caa	tgt	gta	aag	gag	58078
Glu	Phe	Asn	Leu	Asn	Gln	Ile	His	Leu	Ser	Gln	Cys	Val	Lys	Glu	
10235					10240					10245					
gaa	gcc	cgg	gct	att	att	aac	cgg	atc	tat	aca	acc	aga	tac	aac	58123
Glu	Ala	Arg	Ala	Ile	Ile	Asn	Arg	Ile	Tyr	Thr	Thr	Arg	Tyr	Asn	
10250					10255					10260					
tca	tct	cat	gtt	aga	acc	ggg	gat	atc	cag	acc	tac	ctt	gcc	aga	58168
Ser	Ser	His	Val	Arg	Thr	Gly	Asp	Ile	Gln	Thr	Tyr	Leu	Ala	Arg	
10265					10270					10275					

ggg Gly 10280	ggg ttt gtt gtg gtg Gly Phe Val Val Val 10285	ttt caa ccc ctg ctg Phe Gln Pro Leu Leu 10290	agc aat tcc ctc Ser Asn Ser Leu	58213
gcc Ala 10295	cgt ctc tat ctc caa Arg Leu Tyr Leu Gln 10300	gaa ttg gtc cgt gaa Glu Leu Val Arg Glu 10305	aac act aat cat Asn Thr Asn His	58258
tca Ser 10310	cca caa aaa cac ccg Pro Gln Lys His Pro 10315	act cga aat acc aga Thr Arg Asn Thr Arg 10320	tcc cga cga agc Ser Arg Arg Ser	58303
gtg Val 10325	cca gtt gag ttg cgt Pro Val Glu Leu Arg 10330	gcc aat aga aca ata Ala Asn Arg Thr Ile 10335	aca acc acc tca Thr Thr Thr Ser	58348
tcg Ser 10340	gtg gaa ttt got atg Val Glu Phe Ala Met 10345	ctc cag ttt aca tat Leu Gln Phe Thr Tyr 10350	gac cac att caa Asp His Ile Gln	58393
gag Glu 10355	cat gtt aat gaa atg His Val Asn Glu Met 10360	ttg gca cgt atc tcc Leu Ala Arg Ile Ser 10365	tcg tcg tgg tgc Ser Ser Trp Cys	58438
cag Gln 10370	cta caa aat cgc gaa Leu Gln Asn Arg Glu 10375	cgc gcc ctt tgg agc Arg Ala Leu Trp Ser 10380	gga cta ttt cca Gly Leu Phe Pro	58483
att Ile 10385	aac cca agt got tta Asn Pro Ser Ala Leu 10390	gcg agc acc att ttg Ala Ser Thr Ile Leu 10395	gat caa cgt gtt Asp Gln Arg Val	58528
aaa Lys 10400	got cgt att ctc ggc Ala Arg Ile Leu Gly 10405	gac gtt atc tcc gtt Asp Val Ile Ser Val 10410	tct aat tgt cca Ser Asn Cys Pro	58573
gaa Glu 10415	ctg gga tca gat aca Leu Gly Ser Asp Thr 10420	cgc att ata ctt caa Arg Ile Ile Leu Gln 10425	aac tct atg agg Asn Ser Met Arg	58618
gta Val 10430	tct ggt agt act acg Ser Gly Ser Thr Thr 10435	cgt tgt tat agc cgt Arg Cys Tyr Ser Arg 10440	cct tta att tca Pro Leu Ile Ser	58663
ata Ile 10445	gtt agt tta aat ggg Val Ser Leu Asn Gly 10450	tcc ggg acg gtg gag Ser Gly Thr Val Glu 10455	ggc cag ctt gga Gly Gln Leu Gly	58708
aca Thr 10460	gat aac gag tta att Asp Asn Glu Leu Ile 10465	atg tcc aga gat ctg Met Ser Arg Asp Leu 10470	tta gaa cca tgc Leu Glu Pro Cys	58753
gtg Val 10475	got aat cac aag cga Ala Asn His Lys Arg 10480	tat ttt cta ttt ggg Tyr Phe Leu Phe Gly 10485	cat cac tac gta His His Tyr Val	58798
tat Tyr 10490	tat gag gat tat cgt Tyr Glu Asp Tyr Arg 10495	tac gtc cgt gaa atc Tyr Val Arg Glu Ile 10500	gca gtc cat gat Ala Val His Asp	58843

gtg	gga	atg	att	agc	act	tac	gta	gat	tta	aac	tta	aca	ctt	ctt	58888
Val	Gly	Met	Ile	Ser	Thr	Tyr	Val	Asp	Leu	Asn	Leu	Thr	Leu	Leu	
10505					10510					10515					
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Lys	Asp	Arg	Glu	Phe	Met	Pro	Leu	Gln	Val	Tyr	Thr	Arg	Asp	Glu	
10520					10525					10530					
ctg	cgg	gat	aca	gga	tta	cta	gac	tac	agt	gaa	att	caa	cgc	cga	58978
Leu	Arg	Asp	Thr	Gly	Leu	Leu	Asp	Tyr	Ser	Glu	Ile	Gln	Arg	Arg	
10535					10540					10545					
aat	caa	atg	cat	tcg	ctg	cgt	ttt	tat	gac	ata	gac	aag	gtt	gtg	59023
Asn	Gln	Met	His	Ser	Leu	Arg	Phe	Tyr	Asp	Ile	Asp	Lys	Val	Val	
10550					10555					10560					
caa	tat	gat	ago	gga	acg	gcc	att	atg	cag	ggc	atg	gct	cag	ttt	59068
Gln	Tyr	Asp	Ser	Gly	Thr	Ala	Ile	Met	Gln	Gly	Met	Ala	Gln	Phe	
10565					10570					10575					
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Phe	Gln	Gly	Leu	Gly	Thr	Ala	Gly	Gln	Ala	Val	Gly	His	Val	Val	
10580					10585					10590					
ctt	ggg	gcc	acg	gga	gcg	ctg	ctt	tcc	acc	gta	cac	gga	ttt	acc	59158
Leu	Gly	Ala	Thr	Gly	Ala	Leu	Leu	Ser	Thr	Val	His	Gly	Phe	Thr	
10595					10600					10605					
acg	ttt	tta	tct	aac	cca	ttt	ggg	gca	ttg	gcc	gtg	gga	tta	ttg	59203
Thr	Phe	Leu	Ser	Asn	Pro	Phe	Gly	Ala	Leu	Ala	Val	Gly	Leu	Leu	
10610					10615					10620					
gtt	ttg	gcg	gga	ctg	gta	gcg	gcc	ttt	ttt	gcg	tac	cgg	tac	gtg	59248
Val	Leu	Ala	Gly	Leu	Val	Ala	Ala	Phe	Phe	Ala	Tyr	Arg	Tyr	Val	
10625					10630					10635					
ctt	aaa	ctt	aaa	aca	agc	ccg	atg	aag	gca	tta	tat	cca	ctc	aca	59293
Leu	Lys	Leu	Lys	Thr	Ser	Pro	Met	Lys	Ala	Leu	Tyr	Pro	Leu	Thr	
10640					10645					10650					
acc	aag	ggg	tta	aaa	cag	tta	ccg	gaa	gga	atg	gat	ccc	ttt	gcc	59338
Thr	Lys	Gly	Leu	Lys	Gln	Leu	Pro	Glu	Gly	Met	Asp	Pro	Phe	Ala	
10655					10660					10665					
gag	aaa	ccc	aac	gct	act	gat	acc	cca	ata	gaa	gaa	att	ggc	gac	59383
Glu	Lys	Pro	Asn	Ala	Thr	Asp	Thr	Pro	Ile	Glu	Glu	Ile	Gly	Asp	
10670					10675					10680					
tca	caa	aac	act	gaa	ccg	tcg	gta	aat	agc	ggg	ttt	gat	ccc	gat	59428
Ser	Gln	Asn	Thr	Glu	Pro	Ser	Val	Asn	Ser	Gly	Phe	Asp	Pro	Asp	
10685					10690					10695					
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Lys	Phe	Arg	Glu	Ala	Gln	Glu	Met	Ile	Lys	Tyr	Met	Thr	Leu	Val	
10700					10705					10710					
tct	gcg	gct	gag	cgc	caa	gaa	tct	aaa	gcc	cgc	aaa	aaa	aat	aag	59518
Ser	Ala	Ala	Glu	Arg	Gln	Glu	Ser	Lys	Ala	Arg	Lys	Lys	Asn	Lys	
10715					10720					10725					

act	ago gcc ott tta aot	tca cgt ott acc ggc	ctt got tta cga	59563
Thr	Ser Ala Leu Leu Thr	Ser Arg Leu Thr Gly	Leu Ala Leu Arg	
10730	10735	10740		
aat	cgc cga gga tac tcc	cgt gtt cgc acc gag	aat gta acg ggg	59608
Asn	Arg Arg Gly Tyr Ser	Arg Val Arg Thr Glu	Asn Val Thr Gly	
10745	10750	10755		
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Val				
10760				
ctcatgtgtc tccattacgc atcacagggg gtattttatac ccgataatat acaaaacgcg			59724	
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		Met Glu Ser Ser		
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Asn	Ile Asn Ala Leu Gln	Gln Pro Ser Ser Ile	Ala His His Pro	
10765	10770	10775		
tcc	aaa cag tgc gct tca	agt ctg aat gaa aca	gta aaa gat tct	59867
Ser	Lys Gln Cys Ala Ser	Ser Leu Asn Glu Thr	Val Lys Asp Ser	
10780	10785	10790		
ccc	ccc gcg att tat gaa	gat agg tta gaa cac	acg ccg gta caa	59912
Pro	Pro Ala Ile Tyr Glu	Asp Arg Leu Glu His	Thr Pro Val Gln	
10795	10800	10805		
tta	ccc cgc gac ggt aca	ccc cga gac gta tgt	tct gtg gga cag	59957
Leu	Pro Arg Asp Gly Thr	Pro Arg Asp Val Cys	Ser Val Gly Gln	
10810	10815	10820		
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Leu	Thr Cys Arg Ala Cys	Ala Thr Lys Pro Phe	Arg Leu Asn Arg	
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gac	agc caa tac gac tac	tta aac aca tgt cca	ggg ggc cgt cat	60047
Asp	Ser Gln Tyr Asp Tyr	Leu Asn Thr Cys Pro	Gly Gly Arg His	
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Ile	Ser Leu Ala Leu Glu	Ile Ile Thr Gly Arg	Trp Val Cys Ile	
10855	10860	10865		
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Pro	Arg Val Phe Pro Asp	Thr Pro Glu Glu Lys	Trp Met Ala Pro	
10870	10875	10880		
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Tyr	Ile Ile Pro Asp Arg	Glu Gln Pro Ser Ser	Gly Asp Glu Asp	
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Met Ser Thr Asp Lys Thr Asp Val Lys Met Gly Val	
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Leu Arg Ile Tyr Leu Asp Gly Ala Tyr Gly Ile Gly Lys Thr Thr	
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gcc gcc gaa gaa ttt tta cac cac ttt gca ata aca cca aac cgg	64932
Ala Ala Glu Glu Phe Leu His His Phe Ala Ile Thr Pro Asn Arg	
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Ile Leu Leu Ile Gly Glu Pro Leu Ser Tyr Trp Arg Asn Leu Ala	
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Gly Glu Asp Ala Ile Cys Gly Ile Tyr Gly Thr Gln Thr Arg Arg	
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Leu Asn Gly Asp Val Ser Pro Glu Asp Ala Gln Arg Leu Thr Ala	
10980 10985 10990	
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His Phe Gln Ser Leu Phe Cys Ser Pro His Ala Ile Met His Ala	
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Lys	Ile	Ser	Ala	Leu	Met	Asp	Thr	Ser	Thr	Ser	Asp	Leu	Val	Gln	
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gta	aat	aag	gag	ccg	tat	aaa	att	atg	tta	tcc	gac	cga	cac	cca	65202
Val	Asn	Lys	Glu	Pro	Tyr	Lys	Ile	Met	Leu	Ser	Asp	Arg	His	Pro	
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Ile	Ala	Ser	Thr	Ile	Cys	Phe	Pro	Leu	Ser	Arg	Tyr	Leu	Val	Gly	
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Asp	Met	Ser	Pro	Ala	Ala	Leu	Pro	Gly	Leu	Leu	Phe	Thr	Leu	Pro	
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Ala	Glu	Pro	Pro	Gly	Thr	Asn	Leu	Val	Val	Cys	Thr	Val	Ser	Leu	
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ccc	agt	cat	tta	tcc	aga	gta	agc	aaa	cgg	gcc	aga	ccg	gga	gaa	65382
Pro	Ser	His	Leu	Ser	Arg	Val	Ser	Lys	Arg	Ala	Arg	Pro	Gly	Glu	
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Thr	Val	Asn	Leu	Pro	Phe	Val	Met	Val	Leu	Arg	Asn	Val	Tyr	Ile	
				11100					11105					11110	
atg	ctt	att	aat	aca	att	ata	ttt	ctt	aaa	act	aac	aac	tgg	cac	65472
Met	Leu	Ile	Asn	Thr	Ile	Ile	Phe	Leu	Lys	Thr	Asn	Asn	Trp	His	
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Ala	Gly	Trp	Asn	Thr	Leu	Ser	Phe	Cys	Asn	Asp	Val	Phe	Lys	Gln	
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aaa	tta	caa	aaa	tcc	gag	tgt	ata	aaa	cta	cgc	gaa	gta	cct	ggg	65562
Lys	Leu	Gln	Lys	Ser	Glu	Cys	Ile	Lys	Leu	Arg	Glu	Val	Pro	Gly	
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Ile	Glu	Asp	Thr	Leu	Phe	Ala	Val	Leu	Lys	Leu	Pro	Glu	Leu	Cys	
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Gly	Glu	Phe	Gly	Asn	Ile	Leu	Pro	Leu	Trp	Ala	Trp	Gly	Met	Glu	
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acc	ctt	tca	aac	tgc	tca	cga	agc	atg	tct	ccg	ttc	gta	tta	tgc	65697
Thr	Leu	Ser	Asn	Cys	Ser	Arg	Ser	Met	Ser	Pro	Phe	Val	Leu	Ser	
				11190					11195					11200	
tta	gaa	cag	aca	ccc	cag	cat	gcg	gca	caa	gaa	cta	aaa	act	ctg	65742
Leu	Glu	Gln	Thr	Pro	Gln	His	Ala	Ala	Gln	Glu	Leu	Lys	Thr	Leu	
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cta	ccc	cag	atg	acc	ccg	gca	aac	atg	tcc	tcc	ggg	gca	tgg	aat	65787
Leu	Pro	Gln	Met	Thr	Pro	Ala	Asn	Met	Ser	Ser	Gly	Ala	Trp	Asn	
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ata	ttg	aaa	gag	ctt	gtt	aat	gcc	gtt	cag	gac	aac	act	tcc	taa	65832

Ile Leu Lys Glu Leu	Val Asn Ala Val Gln	Asp Asn Thr Ser	
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t atg ttt gcg cta gtt tta gcg gtg gta att ctt cct ctt tgg	66115		
Met Phe Ala Leu Val Leu Ala Val Val Ile Leu Pro Leu Trp			
11245	11250	11255	
acc acg gct aat aaa tct tac gta aca cca acc cct gcg act cgc	66160		
Thr Thr Ala Asn Lys Ser Tyr Val Thr Pro Thr Pro Ala Thr Arg			
11260	11265	11270	
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Ser Ile Gly His Met Ser Ala Leu Leu Arg Glu Tyr Ser Asp Arg			
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Asn Met Ser Leu Lys Leu Glu Ala Phe Tyr Pro Thr Gly Phe Asp			
11290	11295	11300	
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Glu Glu Leu Ile Lys Ser Leu His Trp Gly Asn Asp Arg Lys His			
11305	11310	11315	
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Val Phe Leu Val Ile Val Lys Val Asn Pro Thr Thr His Glu Gly			
11320	11325	11330	
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Asp Val Gly Leu Val Ile Phe Pro Lys Tyr Leu Leu Ser Pro Tyr			
11335	11340	11345	
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His Phe Lys Ala Glu His Arg Ala Pro Phe Pro Ala Gly Arg Phe			
11350	11355	11360	
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Gly Phe Leu Ser His Pro Val Thr Pro Asp Val Ser Phe Phe Asp			
11365	11370	11375	
agt tcg ttt gcg ccg tat tta act acg caa cat ctt gtt gcg ttt	66520		
Ser Ser Phe Ala Pro Tyr Leu Thr Thr Gln His Leu Val Ala Phe			
11380	11385	11390	
act acg ttc cca cca aac ccc ctt gta tgg cat ttg gaa aga gct	66565		
Thr Thr Phe Pro Pro Asn Pro Leu Val Trp His Leu Glu Arg Ala			
11395	11400	11405	
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Glu Thr Ala Ala Thr Ala Glu Arg Pro Phe Gly Val Ser Leu Leu			
11410	11415	11420	
ccc gct cgc cca aca gtc ccc aag aat act att ctg gaa cat aaa	66655		

Pro	Ala	Arg	Pro	Thr	Val	Pro	Lys	Asn	Thr	Ile	Leu	Glu	His	Lys	
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Ala	His	Phe	Ala	Thr	Trp	Asp	Ala	Leu	Ala	Arg	His	Thr	Phe	Phe	
	11440					11445					11450				
tct	gcc	gaa	gca	att	atc	acc	aac	tca	acg	ttg	aga	ata	cac	gtt	66745
Ser	Ala	Glu	Ala	Ile	Ile	Thr	Asn	Ser	Thr	Leu	Arg	Ile	His	Val	
	11455					11460					11465				
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Pro	Leu	Phe	Gly	Ser	Val	Trp	Pro	Ile	Arg	Tyr	Trp	Ala	Thr	Gly	
	11470					11475					11480				
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Ser	Val	Leu	Leu	Thr	Ser	Asp	Ser	Gly	Arg	Val	Glu	Val	Asn	Ile	
	11485					11490					11495				
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Gly	Val	Gly	Phe	Met	Ser	Ser	Leu	Ile	Ser	Leu	Ser	Ser	Gly	Pro	
	11500					11505					11510				
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	11545					11550					11555				
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	11560					11565					11570				
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Pro	Glu	Glu	Ser	Leu	Asp	Tyr	Arg	Tyr	His	Leu	Ser	Met	Ala	His	
	11575					11580					11585				
acg	gag	gct	ctg	cgg	atg	aca	acg	aag	gcg	gat	caa	cat	gac	ata	67150
Thr	Glu	Ala	Leu	Arg	Met	Thr	Thr	Lys	Ala	Asp	Gln	His	Asp	Ile	
	11590					11595					11600				
aac	gag	gaa	agc	tat	tac	cat	atc	gcc	gca	aga	ata	gcc	aca	tca	67195
Asn	Glu	Glu	Ser	Tyr	Tyr	His	Ile	Ala	Ala	Arg	Ile	Ala	Thr	Ser	
	11605					11610					11615				
att	ttt	gcg	ttg	tgc	gaa	atg	ggc	cgt	acc	aca	gaa	tat	ttt	ctg	67240
Ile	Phe	Ala	Leu	Ser	Glu	Met	Gly	Arg	Thr	Thr	Glu	Tyr	Phe	Leu	
	11620					11625					11630				
tta	gat	gag	atc	gta	gat	gtt	cag	tat	caa	tta	aaa	ttc	ctt	aat	67285
Leu	Asp	Glu	Ile	Val	Asp	Val	Gln	Tyr	Gln	Leu	Lys	Phe	Leu	Asn	
	11635					11640					11645				
tac	att	tta	atg	cgg	ata	gga	gca	gga	gct	cat	ccc	aac	act	ata	67330

Tyr Ile	Leu Met Arg Ile Gly	Ala Gly Ala His Pro	Asn Thr Ile	
11650	11655	11660		
tcc gga	acc tcg gat ctg atc	ttt gcc gat cca tcg	cag ctt cat	67375
Ser Gly	Thr Ser Asp Leu Ile	Phe Ala Asp Pro Ser	Gln Leu His	
11665	11670	11675		
gac gaa	ctt tca ctt ctt ttt	ggg cag gta aaa ccc	gca aat gtc	67420
Asp Glu	Leu Ser Leu Leu Phe	Gly Gln Val Lys Pro	Ala Asn Val	
11680	11685	11690		
gat tat	ttt att tca tat gat	gaa gcc cgt gat caa	cta aag acc	67465
Asp Tyr	Phe Ile Ser Tyr Asp	Glu Ala Arg Asp Gln	Leu Lys Thr	
11695	11700	11705		
gca tac	gcg ctt tcc cgt ggt	caa gac cat gtg aat	gca ctt tct	67510
Ala Tyr	Ala Leu Ser Arg Gly	Gln Asp His Val Asn	Ala Leu Ser	
11710	11715	11720		
ctc gcc	agg cgt gtt ata atg	agc ata tac aag ggg	ctg ctt gtg	67555
Leu Ala	Arg Arg Val Ile Met	Ser Ile Tyr Lys Gly	Leu Leu Val	
11725	11730	11735		
aag caa	aat tta aat gct aca	gag agg cag gct tta	ttt ttt gcc	67600
Lys Gln	Asn Leu Asn Ala Thr	Glu Arg Gln Ala Leu	Phe Phe Ala	
11740	11745	11750		
tca atg	att tta tta aat ttc	cgc gaa gga cta gaa	aat tca tct	67645
Ser Met	Ile Leu Leu Asn Phe	Arg Glu Gly Leu Glu	Asn Ser Ser	
11755	11760	11765		
cgg gta	tta gac ggt cgc aca	act ttg ctt tta atg	aca tcc atg	67690
Arg Val	Leu Asp Gly Arg Thr	Thr Leu Leu Leu Met	Thr Ser Met	
11770	11775	11780		
tgt acg	gca gct cac gcc acg	caa gca gca ctt aac	ata caa gaa	67735
Cys Thr	Ala Ala His Ala Thr	Gln Ala Ala Leu Asn	Ile Gln Glu	
11785	11790	11795		
ggc ctg	gca tac tta aat cct	tca aaa cac atg ttt	aca ata cca	67780
Gly Leu	Ala Tyr Leu Asn Pro	Ser Lys His Met Phe	Thr Ile Pro	
11800	11805	11810		
aac gta	tac agt cct tgt atg	ggg tcc ctt cgt aca	gac ctc acg	67825
Asn Val	Tyr Ser Pro Cys Met	Gly Ser Leu Arg Thr	Asp Leu Thr	
11815	11820	11825		
gaa gag	att cat gtt atg aat	ctc ctg tcg gca ata	cca aca cgc	67870
Glu Glu	Ile His Val Met Asn	Leu Leu Ser Ala Ile	Pro Thr Arg	
11830	11835	11840		
cca gga	ctt aac gag gta ttg	cat acc caa cta gac	gaa tct gaa	67915
Pro Gly	Leu Asn Glu Val Leu	His Thr Gln Leu Asp	Glu Ser Glu	
11845	11850	11855		
ata ttc	gac gcg gca ttt aaa	acc atg atg att ttt	acc aca tgg	67960
Ile Phe	Asp Ala Ala Phe Lys	Thr Met Met Ile Phe	Thr Thr Trp	
11860	11865	11870		
act gcc	aaa gat ttg cat ata	ctc cac acc cat gta	cca gaa gta	68005

Thr	Ala	Lys	Asp	Leu	His	Ile	Leu	His	Thr	His	Val	Pro	Glu	Val	
	11875					11880					11885				
ttt	acg	tgt	caa	gat	gca	gcc	gcg	cgt	aac	gga	gaa	tat	gtg	ctc	68050
Phe	Thr	Cys	Gln	Asp	Ala	Ala	Ala	Arg	Asn	Gly	Glu	Tyr	Val	Leu	
	11890					11895					11900				
att	ott	coa	gct	gtc	cag	gga	cac	agt	tat	gtg	att	aca	cga	aac	68095
Ile	Leu	Pro	Ala	Val	Gln	Gly	His	Ser	Tyr	Val	Ile	Thr	Arg	Asn	
	11905					11910					11915				
aaa	cct	caa	agg	ggt	ttg	gta	tat	tcc	ctg	gca	gat	gtg	gat	gta	68140
Lys	Pro	Gln	Arg	Gly	Leu	Val	Tyr	Ser	Leu	Ala	Asp	Val	Asp	Val	
	11920					11925					11930				
tat	aac	ccc	ata	tcc	gtt	gtt	tat	tta	agc	agg	gat	act	tgc	gtg	68185
Tyr	Asn	Pro	Ile	Ser	Val	Val	Tyr	Leu	Ser	Arg	Asp	Thr	Cys	Val	
	11935					11940					11945				
tct	gaa	cat	ggt	gtc	ata	gag	acg	gtc	gca	ctg	ccc	cat	ccg	gac	68230
Ser	Glu	His	Gly	Val	Ile	Glu	Thr	Val	Ala	Leu	Pro	His	Pro	Asp	
	11950					11955					11960				
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Asn	Leu	Lys	Glu	Cys	Leu	Tyr	Cys	Gly	Ser	Val	Phe	Leu	Arg	Tyr	
	11965					11970					11975				
cta	acc	acg	ggg	gcg	att	atg	gat	ata	att	att	att	gac	agc	aaa	68320
Leu	Thr	Thr	Gly	Ala	Ile	Met	Asp	Ile	Ile	Ile	Ile	Asp	Ser	Lys	
	11980					11985					11990				
gat	aca	gaa	cga	caa	cta	gcc	gct	atg	gga	aac	tcc	aca	att	cca	68365
Asp	Thr	Glu	Arg	Gln	Leu	Ala	Ala	Met	Gly	Asn	Ser	Thr	Ile	Pro	
	11995					12000					12005				
ccc	ttc	aat	cca	gac	atg	cac	ggg	gat	gac	tct	aag	gct	gtg	ttg	68410
Pro	Phe	Asn	Pro	Asp	Met	His	Gly	Asp	Asp	Ser	Lys	Ala	Val	Leu	
	12010					12015					12020				
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Leu	Phe	Pro	Asn	Gly	Thr	Val	Val	Thr	Leu	Leu	Gly	Phe	Glu	Arg	
	12025					12030					12035				
cga	caa	gcc	ata	cga	atg	tcg	gga	caa	tac	ctt	ggg	gcc	tct	tta	68500
Arg	Gln	Ala	Ile	Arg	Met	Ser	Gly	Gln	Tyr	Leu	Gly	Ala	Ser	Leu	
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Gly	Gly	Ala	Phe	Leu	Ala	Val	Val	Gly	Phe	Gly	Ile	Ile	Gly	Trp	
	12055					12060					12065				
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Met	Leu	Cys	Gly	Asn	Ser	Arg	Leu	Arg	Glu	Tyr	Asn	Lys	Ile	Pro	
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gogactgaac gtt atg aac cca ccc caa gcc cgc gtc tcg gaa cag	70665
Met Asn Pro Pro Gln Ala Arg Val Ser Glu Gln	
12090 12095	
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Thr Lys Asp Leu Leu Ser Val Met Val Asn Gln His Pro Glu Glu	
12100 12105 12110	
gac gca aaa gtg tgt aaa tcc agt gat aat tca ccg ctt tat aac	70755
Asp Ala Lys Val Cys Lys Ser Ser Asp Asn Ser Pro Leu Tyr Asn	
12115 12120 12125	
acc atg gtt atg tta tcg tat ggg ggt gat acg gac tta cta tta	70800
Thr Met Val Met Leu Ser Tyr Gly Gly Asp Thr Asp Leu Leu Leu	
12130 12135 12140	
agc tct gca tgt acc cgc aca tct acc gta aac agg tcg gcg ttt	70845
Ser Ser Ala Cys Thr Arg Thr Ser Thr Val Asn Arg Ser Ala Phe	
12145 12150 12155	
acg caa cac tcc gtg ttt tat att ata tcc acg gtg ttg att caa	70890
Thr Gln His Ser Val Phe Tyr Ile Ile Ser Thr Val Leu Ile Gln	
12160 12165 12170	
cca ata tgt tgt atc ttc ttt ttt ttt tac tat aaa gcg aca cgc	70935
Pro Ile Cys Cys Ile Phe Phe Phe Phe Tyr Tyr Lys Ala Thr Arg	
12175 12180 12185	
tgt atg ctc tta ttc aca gcc ggg tta ctt ctg acg att cta cat	70980
Cys Met Leu Leu Phe Thr Ala Gly Leu Leu Leu Thr Ile Leu His	
12190 12195 12200	
cac ttt cga ctt att att atg tta ttg tgt gtc tac aga aat ata	71025
His Phe Arg Leu Ile Ile Met Leu Leu Cys Val Tyr Arg Asn Ile	
12205 12210 12215	
cga tca gac ctg cta ccc tta tct aca tcc cag caa ctg ctg ctt	71070
Arg Ser Asp Leu Leu Pro Leu Ser Thr Ser Gln Gln Leu Leu Leu	
12220 12225 12230	
gga att att gtt gtg act cga aca atg cta ttt tgt att acg gcg	71115
Gly Ile Ile Val Val Thr Arg Thr Met Leu Phe Cys Ile Thr Ala	
12235 12240 12245	
tat tat act ctt ttt ata gac acc cgg gtg ttc ttt ttg att acc	71160
Tyr Tyr Thr Leu Phe Ile Asp Thr Arg Val Phe Phe Leu Ile Thr	
12250 12255 12260	
gga cac ttg caa agt gag gtt att ttt cca gat agc gtt tca aaa	71205
Gly His Leu Gln Ser Glu Val Ile Phe Pro Asp Ser Val Ser Lys	
12265 12270 12275	
ata ctt cct gtg tcg tgg ggt cca agt cca gcc gtg tta ctg gta	71250
Ile Leu Pro Val Ser Trp Gly Pro Ser Pro Ala Val Leu Leu Val	
12280 12285 12290	

atg gcg gca gtt	att tac gct atg gac	tgt ttg gtg gac acg	gta	71295
Met Ala Ala Val	Ile Tyr Ala Met Asp	Cys Leu Val Asp Thr	Val	
12295	12300	12305		
tcg ttt att ggg	cca agg gtg tgg gtc	cgt gtt atg tta aaa	aca	71340
Ser Phe Ile Gly	Pro Arg Val Trp Val	Arg Val Met Leu Lys	Thr	
12310	12315	12320		
tct att tcg ttt	tag tccatttcaa taaatgtact	ataattgttc agtctaaaaa		71395
Ser Ile Ser Phe				
12325				
taatgttggg tatttataat	taocgcccc gtgttacttg	gaaacaccca tacatatgtt		71455
ccactctaca tcaaactttct	cgcagttttc ttgttccccg	acacgtttac acgtccggat		71515
tcaagtcgca acgctgctga	caaa atg aca acg gtt tca	tgt ccc gct aac		71566
	Met Thr Thr Val Ser	Cys Pro Ala Asn		
	12330			
gtg att act aca acg gaa	tct gat cgt att gct	ggg tta ttt aac		71611
Val Ile Thr Thr Thr Glu	Ser Asp Arg Ile Ala	Gly Leu Phe Asn		
12335	12340	12345		
atc cca gcg ggg atc att	cca act gga aat gtg	ctg tca acc ata		71656
Ile Pro Ala Gly Ile Ile	Pro Thr Gly Asn Val	Leu Ser Thr Ile		
12350	12355	12360		
gag gtg tgt gca cac cgt	tgc att ttt gat ttt	ttt aaa caa ata		71701
Glu Val Cys Ala His Arg	Cys Ile Phe Asp Phe	Phe Lys Gln Ile		
12365	12370	12375		
cga tca gat gat aac agc	ctt tac tcg gct caa	ttc gat att ctt		71746
Arg Ser Asp Asp Asn Ser	Leu Tyr Ser Ala Gln	Phe Asp Ile Leu		
12380	12385	12390		
ttg ggg aca tac tgc aat	aca tta aac ttt gtg	cgt ttt cta gaa		71791
Leu Gly Thr Tyr Cys Asn	Thr Leu Asn Phe Val	Arg Phe Leu Glu		
12395	12400	12405		
ctt gga ctg tct gtc gct	tgc atc tgt act aaa	ttt ccg gag ctg		71836
Leu Gly Leu Ser Val Ala	Cys Ile Cys Thr Lys	Phe Pro Glu Leu		
12410	12415	12420		
gct tac gtg cga gat ggc	gtt att caa ttt gag	gta caa caa ccc		71881
Ala Tyr Val Arg Asp Gly	Val Ile Gln Phe Glu	Val Gln Gln Pro		
12425	12430	12435		
atg ata goa cgt gat ggc	cca cat ccc gtc gat	cag cct gtt cat		71926
Met Ile Ala Arg Asp Gly	Pro His Pro Val Asp	Gln Pro Val His		
12440	12445	12450		
aat tat atg gtt aag cgg	ata cac aag cgt tcg	tta agc gct gcg		71971
Asn Tyr Met Val Lys Arg	Ile His Lys Arg Ser	Leu Ser Ala Ala		
12455	12460	12465		
ttt gca att gca tcg gaa	gcg ttg agt ttg tta	agt aac aca tat		72016
Phe Ala Ile Ala Ser Glu	Ala Leu Ser Leu Leu	Ser Asn Thr Tyr		
12470	12475	12480		

gtc Val 12485	gat ggg aca gag att Asp Gly Thr Glu Ile 12490	gac tca tcg tta cgt Asp Ser Ser Leu Arg 12495	ata aga gct atc Ile Arg Ala Ile	72061
caa Gln 12500	cag atg gct cgt aat Gln Met Ala Arg Asn 12505	tta cgc acc gtt ttg Leu Arg Thr Val Leu 12510	gac tca ttt gaa Asp Ser Phe Glu	72106
cga Arg 12515	ggc act gcc gat caa Gly Thr Ala Asp Gln 12520	ctt ctt ggt gtt cta Leu Leu Gly Val Leu 12525	ttg gag aaa gcc Leu Glu Lys Ala	72151
cca Pro 12530	ccg cta tcg ctg ctt Pro Leu Ser Leu Leu 12535	tca cca att aat aaa Ser Pro Ile Asn Lys 12540	ttc caa ccc gag Phe Gln Pro Glu	72196
gga Gly 12545	cat cta aat cgt gtt His Leu Asn Arg Val 12550	gca cgc gcg gcc cta Ala Arg Ala Ala Leu 12555	ctt tcg gac ctc Leu Ser Asp Leu	72241
aaa Lys 12560	cgt aga gtc tgt gcg Arg Arg Val Cys Ala 12565	gat atg ttt ttt atg Asp Met Phe Phe Met 12570	acc cga cac gcc Thr Arg His Ala	72286
agg Arg 12575	gaa cct agg ctg atc Glu Pro Arg Leu Ile 12580	tct gcg tat ctg tcg Ser Ala Tyr Leu Ser 12585	gat atg gtt tcg Asp Met Val Ser	72331
tgc Cys 12590	acc caa cca tcg gtg Thr Gln Pro Ser Val 12595	atg gta tca cga ata Met Val Ser Arg Ile 12600	act cat aca aac Thr His Thr Asn	72376
act Thr 12605	cgc gga cgg cag gtt Arg Gly Arg Gln Val 12610	gac ggt gtg ttg gta Asp Gly Val Leu Val 12615	aca aca gca acc Thr Thr Ala Thr	72421
tta Leu 12620	aaa cgg caa cta tta Lys Arg Gln Leu Leu 12625	cag gga att tta caa Gln Gly Ile Leu Gln 12630	att gac gac acc Ile Asp Asp Thr	72466
gcc Ala 12635	gct gac gta cca gta Ala Asp Val Pro Val 12640	aca tat gcc gaa atg Thr Tyr Gly Glu Met 12645	gtt cta cag ggg Val Leu Gln Gly	72511
aca Thr 12650	aac ttg gta acc gcc Asn Leu Val Thr Ala 12655	ctt gtg atg gga aag Leu Val Met Gly Lys 12660	gcc gtc cgc gga Ala Val Arg Gly	72556
atg Met 12665	gat gat gta gcc cgc Asp Asp Val Ala Arg 12670	cat ctc ctt gat ata His Leu Leu Asp Ile 12675	acc gac cct aac Thr Asp Pro Asn	72601
acg Thr 12680	tta aac ata ccg tct Leu Asn Ile Pro Ser 12685	ata ccc cca caa tcc Ile Pro Pro Gln Ser 12690	aac tcc gat tca Asn Ser Asp Ser	72646
acg Thr 12695	aca gct ggg ctt ccg Thr Ala Gly Leu Pro 12700	gtt aac gcc cgt gtt Val Asn Ala Arg Val 12705	cct gcg gat tta Pro Ala Asp Leu	72691

gtg Val 12710	att gtt ggg gat Ile Val Gly Asp	aaa Lys 12715	ctt gta ttc tta gaa Leu Val Phe Leu Glu	gca tta gaa cgg Ala Leu Glu Arg 12720	72736
cgg Arg 12725	gtc tac caa gct acg Val Tyr Gln Ala Thr	12730	cgc gtt gcc tac cct Arg Val Ala Tyr Pro	12735	72781
ata Ile 12740	gat att acg ttt atc Asp Ile Thr Phe Ile	12745	atg cca atg gga gtg Met Pro Met Gly Val	12750	72826
tcc Ser 12755	atg gac aga tat aca Met Asp Arg Tyr Thr	12760	cga cac gcc ggc gat Arg His Ala Gly Asp	12765	72871
tcc Ser 12770	gaa cag gat cca cgt Glu Gln Asp Pro Arg	12775	caa ttt cca ccc caa Gln Phe Pro Pro Gln	12780	72916
tat Tyr 12785	aat aaa gat ggg ata Asn Lys Asp Gly Ile	12790	tta aca cag ttg act Leu Thr Gln Leu Thr	12795	72961
atg Met 12800	ggc acc atc tgc cac Gly Thr Ile Cys His	12805	agt tca ttg ott gat Ser Ser Leu Leu Asp	12810	73006
ctt Leu 12815	gtt gcc ctc cgc caa Val Ala Leu Arg Gln	12820	caa cat tta gat cgt Gln His Leu Asp Arg	12825	73051
ggc Gly 12830	gta tac gtg gcc gag Val Tyr Val Ala Glu	12835	ggc aca gag gac aca Gly Thr Glu Asp Thr	12840	73096
atg Met 12845	ggg agg ttt atg gaa Gly Arg Phe Met Glu	12850	acg tgg gca gat atg Thr Trp Ala Asp Met	12855	73141
cct Pro 12860	cat tgg gta aac gaa His Trp Val Asn Glu	12865	cat tta aca att cta His Leu Thr Ile Leu	12870	73186
cgc Pro 12875	agc aac ccg cgt cta Ser Asn Pro Arg Leu	12880	agg ttt gaa tta aac Arg Phe Glu Leu Asn	12885	73231
ttt Phe 12890	ttt gtt gca ccg ggg Phe Val Ala Pro Gly	12895	gac gta gac ctt ccc Asp Val Asp Leu Pro	12900	73276
ccc Pro 12905	ccg gaa gcc atg cca Pro Glu Ala Met Pro	12910	acc gtt aac gca aca Thr Val Asn Ala Thr	12915	73321
aac Asn 12920	gga aac att ccc gtg Gly Asn Ile Pro Val	12925	cct cta tgt ccc att Pro Leu Cys Pro Ile	12930	73366

tgt	cgc	gga	acc	caa	ctc	ggg	ttg	gga	aga	cat	aca	atg	acc	cgc	73411
Cys	Arg	Gly	Thr	Gln	Leu	Gly	Leu	Gly	Arg	His	Thr	Met	Thr	Pro	
12935					12940					12945					
gca	acc	att	aaa	gcc	gta	aag	gat	aca	ttt	gaa	gac	cgc	gca	tac	73456
Ala	Thr	Ile	Lys	Ala	Val	Lys	Asp	Thr	Phe	Glu	Asp	Arg	Ala	Tyr	
12950					12955					12960					
cca	act	att	ttc	tac	atg	cta	gag	gct	gtt	att	cat	gga	aac	gaa	73501
Pro	Thr	Ile	Phe	Tyr	Met	Leu	Glu	Ala	Val	Ile	His	Gly	Asn	Glu	
12965					12970					12975					
aga	aac	ttc	tgt	gcg	tta	ctg	cga	ctg	tta	aca	cag	tgt	att	cgc	73546
Arg	Asn	Phe	Cys	Ala	Leu	Leu	Arg	Leu	Leu	Thr	Gln	Cys	Ile	Arg	
12980					12985					12990					
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Gly	Tyr	Trp	Glu	Gln	Ser	His	Arg	Val	Ala	Phe	Val	Asn	Asn	Phe	
12995					13000					13005					
cac	atg	tta	atg	tac	ata	act	aca	tat	ctc	gga	aac	ggg	gag	ctt	73636
His	Met	Leu	Met	Tyr	Ile	Thr	Thr	Tyr	Leu	Gly	Asn	Gly	Glu	Leu	
13010					13015					13020					
ccc	gaa	gtc	tgt	att	aat	ata	tat	cgg	gat	tta	ctg	cag	cat	gta	73681
Pro	Glu	Val	Cys	Ile	Asn	Ile	Tyr	Arg	Asp	Leu	Leu	Gln	His	Val	
13025					13030					13035					
aga	gca	tta	cgc	caa	act	ata	acc	gat	ttt	aca	ata	caa	gga	gag	73726
Arg	Ala	Leu	Arg	Gln	Thr	Ile	Thr	Asp	Phe	Thr	Ile	Gln	Gly	Glu	
13040					13045					13050					
ggc	cat	aac	ggc	gag	acc	tcg	gaa	gcg	cta	aat	aac	atc	ctt	acg	73771
Gly	His	Asn	Gly	Glu	Thr	Ser	Glu	Ala	Leu	Asn	Asn	Ile	Leu	Thr	
13055					13060					13065					
gat	gac	acg	ttt	att	gca	cct	att	cta	tgg	gat	tgt	gat	gcg	tta	73816
Asp	Asp	Thr	Phe	Ile	Ala	Pro	Ile	Leu	Trp	Asp	Cys	Asp	Ala	Leu	
13070					13075					13080					
ata	tac	cgt	gat	gaa	gcc	gcc	cga	gac	cga	ctc	ccc	gca	att	cgt	73861
Ile	Tyr	Arg	Asp	Glu	Ala	Ala	Arg	Asp	Arg	Leu	Pro	Ala	Ile	Arg	
13085					13090					13095					
gta	agc	ggg	cga	aac	gga	tac	caa	gcc	ctt	cac	ttt	gtg	gat	atg	73906
Val	Ser	Gly	Arg	Asn	Gly	Tyr	Gln	Ala	Leu	His	Phe	Val	Asp	Met	
13100					13105					13110					
gcc	ggg	cat	aac	ttc	caa	cga	cgc	gat	aat	gtg	tta	atc	cac	ggg	73951
Ala	Gly	His	Asn	Phe	Gln	Arg	Arg	Asp	Asn	Val	Leu	Ile	His	Gly	
13115					13120					13125					
aga	ccc	gtt	cgg	gga	gac	acg	ggg	cag	ggg	att	ccc	att	act	cca	73996
Arg	Pro	Val	Arg	Gly	Asp	Thr	Gly	Gln	Gly	Ile	Pro	Ile	Thr	Pro	
13130					13135					13140					
cac	cat	gac	cgt	gaa	tgg	ggg	att	ctc	tcg	aag	att	tac	tac	tat	74041
His	His	Asp	Arg	Glu	Trp	Gly	Ile	Leu	Ser	Lys	Ile	Tyr	Tyr	Tyr	
13145					13150					13155					

att Ile 13160	gtc Val	att Ile	cct Pro	gca Ala	ttt Phe 13165	tcc Ser	cgc Arg	ggg Gly	tcc Ser	tgt Cys 13170	tgt Cys	aca Thr	atg Met	ggc Gly	74086
gtg Val 13175	cgt Arg	tat Tyr	gat Asp	cgc Arg	cta Leu 13180	tac Tyr	cct Pro	gcg Ala	tta Leu	cag Gln 13185	gca Ala	gtt Val	atc Ile	gtt Val	74131
ccg Pro 13190	gaa Glu	att Ile	ccc Pro	gct Ala	gat Asp 13195	gaa Glu	gaa Glu	gcc Ala	cca Pro	act Thr 13200	acc Thr	cca Pro	gaa Glu	gat Asp	74176
cca Pro 13205	aga Arg	cac His	cct Pro	ctt Leu	cau His 13210	gca Ala	cac His	caa Gln	ctc Leu	gtt Val 13215	ccg Pro	aac Asn	tct Ser	ctt Leu	74221
aac Asn 13220	gtt Val	tac Tyr	ttc Phe	cat His	aat Asn 13225	gca Ala	cac His	cta Leu	acc Thr	gtt Val 13230	gat Asp	ggg Gly	gat Asp	gca Ala	74266
ttg Leu 13235	ctc Leu	aca Thr	cta Leu	caa Gln	gag Glu 13240	tta Leu	atg Met	gga Gly	gat Asp	atg Met 13245	gct Ala	gaa Glu	cga Arg	acg Thr	74311
acg Thr 13250	gcc Ala	att Ile	tta Leu	gta Val	tca Ser 13255	agc Ser	gcc Ala	ccc Pro	gat Asp	gcg Ala 13260	gga Gly	gcc Ala	gcc Ala	acg Thr	74356
gca Ala 13265	aca Thr	acc Thr	aga Arg	aat Asn	atg Met 13270	aga Arg	ata Ile	tat Tyr	gac Asp	gga Gly 13275	gcg Ala	ctt Leu	tac Tyr	cat His	74401
ggc Gly 13280	ctt Leu	att Ile	atg Met	atg Met	gca Ala 13285	tat Tyr	cag Gln	gcg Ala	tac Tyr	gat Asp 13290	gaa Glu	acc Thr	att Ile	gca Ala	74446
acg Thr 13295	ggg Gly	act Thr	ttt Phe	ttt Phe	tat Tyr 13300	ccc Pro	gtt Val	ccg Pro	gtc Val	aac Asn 13305	cct Pro	ctg Leu	ttt Phe	gca Ala	74491
tgt Cys 13310	ccg Pro	gaa Glu	cat His	ttg Leu	gca Ala 13315	tca Ser	ttg Leu	cgt Arg	gga Gly	atg Met 13320	aca Thr	aat Asn	gct Ala	agg Arg	74536
ccg Arg 13325	gtt Val	ttg Leu	gca Ala	aaa Lys	atg Met 13330	gta Val	cca Pro	cca Pro	atc Ile	cct Pro 13335	cct Pro	ttt Phe	ctg Leu	gga Gly	74581
gcc Ala 13340	aac Asn	cac His	cac His	gca Ala	act Thr 13345	ata Ile	cgc Arg	caa Gln	ccc Pro	gtt Val 13350	gcc Ala	tac Tyr	cat His	gta Val	74626
acg Thr 13355	cat His	agt Ser	aag Lys	tgc Ser	gat Asp 13360	ttt Phe	aat Asn	act Thr	ctt Leu	aca Thr 13365	tat Tyr	tct Ser	ctt Leu	ctt Leu	74671
gga Gly 13370	ggg Gly	tat Tyr	ttt Phe	aag Lys	ttt Phe 13375	aca Thr	cca Pro	ata Ile	tct Ser	ctt Leu 13380	aca Thr	cat His	caa Gln	cta Leu	74716

cga Arg 13385	acg gga ttt cac ccc Thr Gly Phe His Pro 13390	ggg att gcc ttt acc Gly Ile Ala Phe Thr 13395	gta gtg cgc cag Val Val Arg Gln	74761
gat Asp 13400	cgc ttt gcc aca gag Arg Phe Ala Thr Glu 13405	caa ctt tta tat gcc Gln Leu Leu Tyr Ala 13410	gag cgt gct tct Glu Arg Ala Ser	74806
gaa Glu 13415	tcg tac ttt gtc gga Ser Tyr Phe Val Gly 13420	caa atc caa gta cac Gln Ile Gln Val His 13425	cat cat gat gct His His Asp Ala	74851
att Ile 13430	ggg ggg gta aac ttt Gly Gly Val Asn Phe 13435	acc cta acc caa ccc Thr Leu Thr Gln Pro 13440	aga gct cac gtg Arg Ala His Val	74896
gac Asp 13445	ctg gga gtc ggg tat Leu Gly Val Gly Tyr 13450	aca gct gta tgt gcc Thr Ala Val Cys Ala 13455	aca gca gcc ctg Thr Ala Ala Leu	74941
cga Arg 13460	tgc cct ctc acg gat Cys Pro Leu Thr Asp 13465	atg ggc aat act gcc Met Gly Asn Thr Ala 13470	caa aat ctt ttt Gln Asn Leu Phe	74986
ttt Phe 13475	tca cga gga gga gtg Ser Arg Gly Gly Val 13480	cca atg tta cat gat Pro Met Leu His Asp 13485	aac gtt acc gaa Asn Val Thr Glu	75031
tcg Ser 13490	ttg cgt cgt ata aca Leu Arg Arg Ile Thr 13495	gca tcg ggg ggt cgc Ala Ser Gly Gly Arg 13500	tta aat ccc acc Leu Asn Pro Thr	75076
gaa Glu 13505	ccc cta ccc atc ttc Pro Leu Pro Ile Phe 13510	ggc gga cta cgt cct Gly Gly Leu Arg Pro 13515	gct aca tcg gca Ala Thr Ser Ala	75121
gga Gly 13520	att gca cga ggg caa Ile Ala Arg Gly Gln 13525	gcc tct gtg tgt gag Ala Ser Val Cys Glu 13530	ttt gtg gcc atg Phe Val Ala Met	75166
ccg Pro 13535	gtg tcc act gac cta Val Ser Thr Asp Leu 13540	caa tat ttt aga act Gln Tyr Phe Arg Thr 13545	gca tgc aat cct Ala Cys Asn Pro	75211
aga Arg 13550	ggg cga gca tct gga Gly Arg Ala Ser Gly 13555	atg tta tat atg ggt Met Leu Tyr Met Gly 13560	gac cgt gac gcc Asp Arg Asp Ala	75256
gac Asp 13565	ata gag gct ata atg Ile Glu Ala Ile Met 13570	ttt gat cac aca caa Phe Asp His Thr Gln 13575	tcg gat gtt gct Ser Asp Val Ala	75301
tat Tyr 13580	aca gat cga gca act Thr Asp Arg Ala Thr 13585	ctt aac cca tgg gca Leu Asn Pro Trp Ala 13590	tca caa aaa cat Ser Gln Lys His	75346
tca Ser 13595	tac ggt gac agg cta Tyr Gly Asp Arg Leu 13600	tac aac gga aca tac Tyr Asn Gly Thr Tyr 13605	aac ctt aca ggc Asn Leu Thr Gly	75391

gct	tct cct atc tac agc	cca tgc ttt aag ttt	ttt aca cca gcg	75436		
Ala	Ser Pro Ile Tyr Ser	Pro Cys Phe Lys Phe	Phe Thr Pro Ala			
13610	13615	13620				
gag	gtt aac act aat tgt	aat aca ctg gat cgg	ctt cta atg gag	75481		
Glu	Val Asn Thr Asn Cys	Asn Thr Leu Asp Arg	Leu Leu Met Glu			
13625	13630	13635				
gca	aag gct gtg gcg tgc	caa agc tcc acc gac	act gaa tat caa	75526		
Ala	Lys Ala Val Ala Ser	Gln Ser Ser Thr Asp	Thr Glu Tyr Gln			
13640	13645	13650				
ttt	aaa cgc cct ccc ggt	tct acc gaa atg aca	cag gat ccg tgt	75571		
Phe	Lys Arg Pro Pro Gly	Ser Thr Glu Met Thr	Gln Asp Pro Cys			
13655	13660	13665				
ggc	ctt ttt caa gaa gca	tat cca cca cta tgc	tca agc gat gcg	75616		
Gly	Leu Phe Gln Glu Ala	Tyr Pro Pro Leu Cys	Ser Ser Asp Ala			
13670	13675	13680				
gcc	atg tta cga acg gct	cac gcg gga gaa acc	ggg gca gat gaa	75661		
Ala	Met Leu Arg Thr Ala	His Ala Gly Glu Thr	Gly Ala Asp Glu			
13685	13690	13695				
gtt	cac tta gcc caa tat	ctg att cga gac gcg	tgc ccc ctt agg	75706		
Val	His Leu Ala Gln Tyr	Leu Ile Arg Asp Ala	Ser Pro Leu Arg			
13700	13705	13710				
gga	tgt ctt cct ctt ccg	cga taa ttccaccaag	cccacatacc	75750		
Gly	Cys Leu Pro Leu Pro	Arg				
13715	13720					
cactcccaat	aaaagccctg	tagagcgcat	tggcattotta	cttgagattt	ggatacgcgc	75810
ggcgcacttg	gtctgtttca	cgtttcctta	aacaac	atg gct atg cca	ttt gag	75864
				Met Ala Met Pro	Phe Glu	
				13725		
ata gag gta	ttg tta cca gga gaa	cta tcc ccg gcg gaa	aca tct	75909		
Ile Glu Val	Leu Leu Pro Gly Glu	Leu Ser Pro Ala Glu	Thr Ser			
13730	13735	13740				
gca tta cag	aaa tgt gag gga aaa	att att acc ttc tca	acc ctg	75954		
Ala Leu Gln	Lys Cys Glu Gly Lys	Ile Ile Thr Phe Ser	Thr Leu			
13745	13750	13755				
cgt cat cga	gct tca ctg gtg gat	ata gcg ctg tgc tca	tat tac	75999		
Arg His Arg	Ala Ser Leu Val Asp	Ile Ala Leu Ser Ser	Tyr Tyr			
13760	13765	13770				
att aac ggt	gct cca cca gac acg	ctc tgc ctg tta gag	gca tac	76044		
Ile Asn Gly	Ala Pro Pro Asp Thr	Leu Ser Leu Leu Glu	Ala Tyr			
13775	13780	13785				
cga atg cga	ttc gcg gca gtt ata	aca cgg gtc atc ccg	gga aag	76089		
Arg Met Arg	Phe Ala Ala Val Ile	Thr Arg Val Ile Pro	Gly Lys			
13790	13795	13800				
ttg ttg gcg	cat gcc att ggc gtg	ggc act cct aca ccc	ggg ttg	76134		

Leu	Leu	Ala	His	Ala	Ile	Gly	Val	Gly	Thr	Pro	Thr	Pro	Gly	Leu	
		13805					13810					13815			
ttt	att	caa	aat	aca	tcg	ccc	gtt	gat	ctt	tgt	aat	ggc	gat	tac	76179
Phe	Ile	Gln	Asn	Thr	Ser	Pro	Val	Asp	Leu	Cys	Asn	Gly	Asp	Tyr	
		13820					13825					13830			
atc	tgc	tta	ctt	cct	ccg	gtt	ttc	ggg	tcc	gca	gac	tca	att	cgc	76224
Ile	Cys	Leu	Leu	Pro	Pro	Val	Phe	Gly	Ser	Ala	Asp	Ser	Ile	Arg	
		13835					13840					13845			
ttg	gac	tct	gta	gga	ctg	gaa	att	gtt	ttc	cct	tta	acc	atc	ccc	76269
Leu	Asp	Ser	Val	Gly	Leu	Glu	Ile	Val	Phe	Pro	Leu	Thr	Ile	Pro	
		13850					13855					13860			
cag	acc	tta	atg	cga	gaa	atc	atc	gcc	aaa	gtg	gtt	gca	cgg	gcc	76314
Gln	Thr	Leu	Met	Arg	Glu	Ile	Ile	Ala	Lys	Val	Val	Ala	Arg	Ala	
		13865					13870					13875			
gtt	gag	cgc	acg	gcc	gcg	ggt	gct	caa	att	tta	ccc	cac	gaa	gtt	76359
Val	Glu	Arg	Thr	Ala	Ala	Gly	Ala	Gln	Ile	Leu	Pro	His	Glu	Val	
		13880					13885					13890			
cta	cga	ggc	gcg	gat	gtc	att	tgt	tac	aat	gga	agg	cgt	tat	gaa	76404
Leu	Arg	Gly	Ala	Asp	Val	Ile	Cys	Tyr	Asn	Gly	Arg	Arg	Tyr	Glu	
		13895					13900					13905			
ctc	gaa	aca	aat	tta	caa	cat	cgg	gac	gga	tcg	gat	gcg	gct	att	76449
Leu	Glu	Thr	Asn	Leu	Gln	His	Arg	Asp	Gly	Ser	Asp	Ala	Ala	Ile	
		13910					13915					13920			
cgc	aca	ttg	gtt	tta	aat	cta	atg	ttt	tcc	ata	aac	gag	gga	tgt	76494
Arg	Thr	Leu	Val	Leu	Asn	Leu	Met	Phe	Ser	Ile	Asn	Glu	Gly	Cys	
		13925					13930					13935			
ctg	ctt	tta	ttg	gcg	ctg	att	cca	act	ttg	tta	gtc	caa	gga	gca	76539
Leu	Leu	Leu	Leu	Ala	Leu	Ile	Pro	Thr	Leu	Leu	Val	Gln	Gly	Ala	
		13940					13945					13950			
cac	gac	ggt	tat	gta	aat	tta	ttg	ata	caa	acg	gcc	aat	tgc	gtt	76584
His	Asp	Gly	Tyr	Val	Asn	Leu	Leu	Ile	Gln	Thr	Ala	Asn	Cys	Val	
		13955					13960					13965			
aga	gaa	acc	ggc	cag	tta	att	aat	ata	ccg	cca	atg	ccg	cgg	att	76629
Arg	Glu	Thr	Gly	Gln	Leu	Ile	Asn	Ile	Pro	Pro	Met	Pro	Arg	Ile	
		13970					13975					13980			
caa	gac	ggc	cat	cgc	cga	ttt	ccc	ata	tat	gaa	act	att	tca	tct	76674
Gln	Asp	Gly	His	Arg	Arg	Phe	Pro	Ile	Tyr	Glu	Thr	Ile	Ser	Ser	
		13985					13990					13995			
tgg	ata	tca	aca	tca	tct	aga	ctg	ggg	gat	acc	ttg	gga	act	cgc	76719
Trp	Ile	Ser	Thr	Ser	Ser	Arg	Leu	Gly	Asp	Thr	Leu	Gly	Thr	Arg	
		14000					14005					14010			
gca	att	tta	cgc	gtc	tgt	gtg	ttt	gat	gga	ccc	tct	act	gtt	cat	76764
Ala	Ile	Leu	Arg	Val	Cys	Val	Phe	Asp	Gly	Pro	Ser	Thr	Val	His	
		14015					14020					14025			
ccg	gga	gac	cgc	acg	gcc	gtg	att	caa	gtg	taa	acaggtgtta				76807

Pro Gly Asp Arg Thr Ala Val Ile Gln Val
 14030 14035

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 Met Glu Ala His
 14040

ttg gca aat gaa acc aaa cat gca ctt tgg cat aat gat cac aca 78226
 Leu Ala Asn Glu Thr Lys His Ala Leu Trp His Asn Asp His Thr
 14045 14050 14055

aaa gga tta cta cac gtt gtg ata cct aac gcg ggg ctt att gcg 78271
 Lys Gly Leu Leu His Val Val Ile Pro Asn Ala Gly Leu Ile Ala
 14060 14065 14070

gcc gga ata gat ccc gca tta ctg att tta aag aaa ccc gga caa 78316

Ala Gly Ile Asp	Pro Ala Leu Leu Ile	Leu Lys Lys Pro Gly Gln	
14075	14080	14085	
cgc ttc aag gtt	gaa gta caa aca aga	tat cat gct aca ggt	caa 78361
Arg Phe Lys Val	Glu Val Gln Thr Arg	Tyr His Ala Thr Gly Gln	
14090	14095	14100	
tgc gaa ccg tgg	tgt caa gtt ttc gcc	gcg tac att ccc gat	aac 78406
Cys Glu Pro Trp	Cys Gln Val Phe Ala	Ala Tyr Ile Pro Asp Asn	
14105	14110	14115	
gcc tta aca aat	ctc tta ata cca aaa	acg gaa cca ttt gtt	tca 78451
Ala Leu Thr Asn	Leu Leu Ile Pro Lys	Thr Glu Pro Phe Val Ser	
14120	14125	14130	
cac gtt ttt tgc	gcc acg cat aat tca	ggg gga ttg att tta	tca 78496
His Val Phe Ser	Ala Thr His Asn Ser	Gly Gly Leu Ile Leu Ser	
14135	14140	14145	
ttg cct gtt tat	ctt agc ccc ggt tta	ttc ttt gat gca ttt	aac 78541
Leu Pro Val Tyr	Leu Ser Pro Gly Leu	Phe Phe Asp Ala Phe Asn	
14150	14155	14160	
gtt gta gcg ata	cga ata aat act gga	aac cgc aag cac cgt	gat 78586
Val Val Ala Ile	Arg Ile Asn Thr Gly	Asn Arg Lys His Arg Asp	
14165	14170	14175	
att tgt att atg	tat gca gaa cta atc	cca aac gga acg cgt	tat 78631
Ile Cys Ile Met	Tyr Ala Glu Leu Ile	Pro Asn Gly Thr Arg Tyr	
14180	14185	14190	
ttt gct gat gga	caa cgg gta ctt tta	tta tgc aaa cag ctg	att 78676
Phe Ala Asp Gly	Gln Arg Val Leu Leu	Leu Cys Lys Gln Leu Ile	
14195	14200	14205	
gcg tat atc cga	tgc aoc cct cgt ctt	gca tgc tct ata aaa	ata 78721
Ala Tyr Ile Arg	Cys Thr Pro Arg Leu	Ala Ser Ser Ile Lys Ile	
14210	14215	14220	
tac gca gag cat	atg gtg gca gcc atg	ggg gaa tca cac acg	tca 78766
Tyr Ala Glu His	Met Val Ala Ala Met	Gly Glu Ser His Thr Ser	
14225	14230	14235	
aat ggg gac aat	att gga ccc gtt tca	tcc ata atc gat ctt	gat 78811
Asn Gly Asp Asn	Ile Gly Pro Val Ser	Ser Ile Ile Asp Leu Asp	
14240	14245	14250	
cga cag tta act	tct gga ggt att gat	gac tcc cct gct gaa	aca 78856
Arg Gln Leu Thr	Ser Gly Gly Ile Asp	Asp Ser Pro Ala Glu Thr	
14255	14260	14265	
cgc ata cag gaa	aat aat cgg gac gtc	ctt gag cta ata aaa	cgg 78901
Arg Ile Gln Glu	Asn Asn Arg Asp Val	Leu Glu Leu Ile Lys Arg	
14270	14275	14280	
gcc gta aac att	gtt aac tcc agg cac	ccc gtc cga cct tct	agt 78946
Ala Val Asn Ile	Val Asn Ser Arg His	Pro Val Arg Pro Ser Ser	
14285	14290	14295	
tcc cgc gtt gca	tct ggg ttg ctt caa	agt gca aag ggc cac	gga 78991

Ser Arg Val Ala	14300	Ser Gly Leu Leu Gln	14305	Ser Ala Lys Gly His Gly	14310	
gcg caa act tcc		aac aca gat ccg atc		aat aac ggt tcc ttt gat		79036
Ala Gln Thr Ser	14315	Asn Thr Asp Pro Ile	14320	Asn Asn Gly Ser Phe Asp	14325	
ggc gtc ctt gag		ccg cct gga caa ggg		cga ttt acg gga aag aaa		79081
Gly Val Leu Glu	14330	Pro Pro Gly Gln Gly	14335	Arg Phe Thr Gly Lys Lys	14340	
aac aat tcg tcc		gcc agc atc cca cct		tta caa gac gtt cta ttg		79126
Asn Asn Ser Ser	14345	Ala Ser Ile Pro Pro	14350	Leu Gln Asp Val Leu Leu	14355	
ttt acc cca gct		tcg aca gaa ccc caa		agt ctt atg gaa tgg ttc		79171
Phe Thr Pro Ala	14360	Ser Thr Glu Pro Gln	14365	Ser Leu Met Glu Trp Phe	14370	
gac atc tgt tat		gcc caa tta gtt agc		ggg gac act cca gca gat		79216
Asp Ile Cys Tyr	14375	Ala Gln Leu Val Ser	14380	Gly Asp Thr Pro Ala Asp	14385	
ttc tgg aaa cgg		cgt ccc cta tca att		gta ccg cga cat tac gca		79261
Phe Trp Lys Arg	14390	Arg Pro Leu Ser Ile	14395	Val Pro Arg His Tyr Ala	14400	
gaa tcc ccc agt		ccg ttg att gta gta		tct tac aac gga tcc tct		79306
Glu Ser Pro Ser	14405	Pro Leu Ile Val Val	14410	Ser Tyr Asn Gly Ser Ser	14415	
gcc tgg gga gga		cgt att acc gga agt		cca att tta tat cac tct		79351
Ala Trp Gly Gly	14420	Arg Ile Thr Gly Ser	14425	Pro Ile Leu Tyr His Ser	14430	
gca cag gct att		att gat gct gcg tgt		ata aat gcc cgg gtt gac		79396
Ala Gln Ala Ile	14435	Ile Asp Ala Ala Cys	14440	Ile Asn Ala Arg Val Asp	14445	
aat ccc caa agc		cta cat gtg aca gct		cgc caa gag cta gtc gcg		79441
Asn Pro Gln Ser	14450	Leu His Val Thr Ala	14455	Arg Gln Glu Leu Val Ala	14460	
cgt tta ccg ttt		ttg gct aac gtc cta		aat aat caa acc ccc tta		79486
Arg Leu Pro Phe	14465	Leu Ala Asn Val Leu	14470	Asn Asn Gln Thr Pro Leu	14475	
ccc gcc ttt aaa		cca gcc gcc gaa atg		ttt tta aac cag gta ttt		79531
Pro Ala Phe Lys	14480	Pro Gly Ala Glu Met	14485	Phe Leu Asn Gln Val Phe	14490	
aaa caa gcg tgt		gtg aca tcg cta acc		caa ggt ctt ata acg gag		79576
Lys Gln Ala Cys	14495	Val Thr Ser Leu Thr	14500	Gln Gly Leu Ile Thr Glu	14505	
tta caa acg aac		ccg act cta caa caa		ctc atg gaa tat gat att		79621
Leu Gln Thr Asn	14510	Pro Thr Leu Gln Gln	14515	Leu Met Glu Tyr Asp Ile	14520	
gca gat tct tcc		caa acg gtt att gat		gaa att gta gcc cgc aca		79666

Ala Asp Ser Ser	Gln Thr Val Ile Asp	Glu Ile Val Ala Arg	Thr	
14525	14530	14535		
cca gac ctg att	cag act ata gtt tgc	gtg tta acg gaa atg	tca	79711
Pro Asp Leu Ile	Gln Thr Ile Val Ser	Val Leu Thr Glu Met	Ser	
14540	14545	14550		
atg gat gcg ttt	tat aac agc tcc ttg	atg tat gcg gtt ttg	gcg	79756
Met Asp Ala Phe	Tyr Asn Ser Ser Leu	Met Tyr Ala Val Leu	Ala	
14555	14560	14565		
tat ctg tca tct	gta tat aca cga cca	caa ggt ggg ggg tat	ata	79801
Tyr Leu Ser Ser	Val Tyr Thr Arg Pro	Gln Gly Gly Gly Tyr	Ile	
14570	14575	14580		
ccc tac ctt cac	gct tcc ttc cca tgc	tgg tta ggt aat cgt	tct	79846
Pro Tyr Leu His	Ala Ser Phe Pro Cys	Trp Leu Gly Asn Arg	Ser	
14585	14590	14595		
ata tat tta ttt	gac tat tat aat tca	gga ggg gaa ata ctt	aag	79891
Ile Tyr Leu Phe	Asp Tyr Tyr Asn Ser	Gly Gly Glu Ile Leu	Lys	
14600	14605	14610		
ctt tcc aag gtc	ccc gtt ccc gta gcc	tta gaa aag gtt ggt	att	79936
Leu Ser Lys Val	Pro Val Pro Val Ala	Leu Glu Lys Val Gly	Ile	
14615	14620	14625		
ggt aat tcc aca	caa ctg agg ggt aaa	ttt ata cgc agc gcg	gat	79981
Gly Asn Ser Thr	Gln Leu Arg Gly Lys	Phe Ile Arg Ser Ala	Asp	
14630	14635	14640		
att gtt gat att	gga att tgt tct aag	tat tta ccc ggt caa	tgt	80026
Ile Val Asp Ile	Gly Ile Cys Ser Lys	Tyr Leu Pro Gly Gln	Cys	
14645	14650	14655		
tac gcg tac att	tgt cta gga ttt aac	cag caa tta caa tcc	att	80071
Tyr Ala Tyr Ile	Cys Leu Gly Phe Asn	Gln Gln Leu Gln Ser	Ile	
14660	14665	14670		
tta gtt tta ccg	ggg gga ttt gcg gca	tgt ttt tgt att acc	gat	80116
Leu Val Leu Pro	Gly Gly Phe Ala Ala	Cys Phe Cys Ile Thr	Asp	
14675	14680	14685		
acc cta cag gca	gca cta cct gca tgc	tta atc gga cct att	cta	80161
Thr Leu Gln Ala	Ala Leu Pro Ala Ser	Leu Ile Gly Pro Ile	Leu	
14690	14695	14700		
gac aga ttc tgc	ttc tct att ccc aac	ccc cat aaa taa		80200
Asp Arg Phe Cys	Phe Ser Ile Pro Asn	Pro His Lys		
14705	14710			
attagtgtca ctataaaaaac	ataacaccag aatctcttca	tatgtaatttt tacgtcattt		80260
ctcccggttcc cccccctct	taaaatataa aataaccggg	tgggtggcat taaaccaca		80320
agtaccgggg cggcaatccg	ctagactggtt tttctgtct	atg gaa tta caa cgc		80374
		Met Glu Leu Gln Arg		
		14715		
ata ttt	cgc ctg tac acc gct	acg ggt gca gcg cgc	aaa tta acc	80419

Ile Phe	Pro Leu Tyr Thr Ala	Thr Gly Ala Ala Arg	Lys Leu Thr	
14720	14725	14730		
ccc gag	gca gtt cag aga ctc	tgc gat gca tta acg	ctg gat atg	80464
Pro Glu	Ala Val Gln Arg Leu	Cys Asp Ala Leu Thr	Leu Asp Met	
14735	14740	14745		
gga tta	tgg aag tcc atc ctc	acc gat ccc cgg gtg	aaa ata atg	80509
Gly Leu	Trp Lys Ser Ile Leu	Thr Asp Pro Arg Val	Lys Ile Met	
14750	14755	14760		
cga tca	act got ttt ata act	tta agg atc gct ccg	ttt atc ccc	80554
Arg Ser	Thr Ala Phe Ile Thr	Leu Arg Ile Ala Pro	Phe Ile Pro	
14765	14770	14775		
ctt caa	acg gat act act aat	att gcc gtt gtt gta	gcc aca att	80599
Leu Gln	Thr Asp Thr Thr Asn	Ile Ala Val Val Val	Ala Thr Ile	
14780	14785	14790		
tac atc	acg cgc cca cgt cag	atg aac tta cct ccg	aag act ttt	80644
Tyr Ile	Thr Arg Pro Arg Gln	Met Asn Leu Pro Pro	Lys Thr Phe	
14795	14800	14805		
cat gta	att gta aat ttt aat	tac gag gtc tcg tac	gca atg acg	80689
His Val	Ile Val Asn Phe Asn	Tyr Glu Val Ser Tyr	Ala Met Thr	
14810	14815	14820		
gcg act	tta aga att tat ccg	gtt gaa aac ata gac	cat gtt ttt	80734
Ala Thr	Leu Arg Ile Tyr Pro	Val Glu Asn Ile Asp	His Val Phe	
14825	14830	14835		
gga gca	acg ttt aag aac ccg	atc gcg tac ccc ctt	cca aca tct	80779
Gly Ala	Thr Phe Lys Asn Pro	Ile Ala Tyr Pro Leu	Pro Thr Ser	
14840	14845	14850		
att ccg	gat cct cga gca gat	ccc acc ccc gca gat	ctt aca cca	80824
Ile Pro	Asp Pro Arg Ala Asp	Pro Thr Pro Ala Asp	Leu Thr Pro	
14855	14860	14865		
acg cca	aac tta agc aac tac	tta caa ccc ccg cgg	ctt ccg aaa	80869
Thr Pro	Asn Leu Ser Asn Tyr	Leu Gln Pro Pro Arg	Leu Pro Lys	
14870	14875	14880		
aat cca	tac gca tgt aaa gtt	att tct ccg gga gtg	tgg tgg tca	80914
Asn Pro	Tyr Ala Cys Lys Val	Ile Ser Pro Gly Val	Trp Trp Ser	
14885	14890	14895		
gac gaa	cga agg cgt tta tat	gta ctg gct atg gaa	cct aat tta	80959
Asp Glu	Arg Arg Arg Leu Tyr	Val Leu Ala Met Glu	Pro Asn Leu	
14900	14905	14910		
ata ggg	cta tgt ccc gcc gga	tgg cat gct cgg ata	ctt ggc tct	81004
Ile Gly	Leu Cys Pro Ala Gly	Trp His Ala Arg Ile	Leu Gly Ser	
14915	14920	14925		
gta tta	aat cga ctc ctc agc	cat gcg gac gga tgt	gat gaa tgt	81049
Val Leu	Asn Arg Leu Leu Ser	His Ala Asp Gly Cys	Asp Glu Cys	
14930	14935	14940		
aat cat	aga gtt cac gtg ggg	gca ctg tat gcg tta	ccc cat gtc	81094

Asn His	Arg Val His Val Gly	Ala Leu Tyr Ala Leu	Pro His Val			
14945		14950	14955			
aca aat	cat gcg gaa ggt tgt	gtg tgt tgg gct ccg	tgt atg tgg	81139		
Thr Asn	His Ala Glu Gly Cys	Val Cys Trp Ala Pro	Cys Met Trp			
14960		14965	14970			
aga aag	gcc ggt cag cgg gaa	tta aaa gtg gag gta	gac att ggc	81184		
Arg Lys	Ala Gly Gln Arg Glu	Leu Lys Val Glu Val	Asp Ile Gly			
14975		14980	14985			
gcc acg	cag gtt ctt ttt gta	gat gtc acc acc tgc	att cga att	81229		
Ala Thr	Gln Val Leu Phe Val	Asp Val Thr Thr Cys	Ile Arg Ile			
14990		14995	15000			
acg agt	act aaa aat cct cgc	att acc gca aat ctt	ggc gac gtt	81274		
Thr Ser	Thr Lys Asn Pro Arg	Ile Thr Ala Asn Leu	Gly Asp Val			
15005		15010	15015			
ata gcg	gga acc aac gcc agt	ggg ctc tct gta cca	gta aat tca	81319		
Ile Ala	Gly Thr Asn Ala Ser	Gly Leu Ser Val Pro	Val Asn Ser			
15020		15025	15030			
tct ggg	tgg cag ctt tat atg	ttt gga gaa aca tta	agc cgg gct	81364		
Ser Gly	Trp Gln Leu Tyr Met	Phe Gly Glu Thr Leu	Ser Arg Ala			
15035		15040	15045			
att att	aac gcc tgt ggt ctg	ctt cag cga att tgc	ttc ccc gag	81409		
Ile Ile	Asn Gly Cys Gly Leu	Leu Gln Arg Ile Cys	Phe Pro Glu			
15050		15055	15060			
aca caa	aga tta tcg ggt gaa	ccg gaa cct aca acc	acc tag	81451		
Thr Gln	Arg Leu Ser Gly Glu	Pro Glu Pro Thr Thr	Thr			
15065		15070	15075			
tataccttaa	ctcaacggcc	gttgtgaaa	ggatatgtc	aacatttaca	gtaatatatt	81511
aaagggttaa	tttataaaac	actcaagttt	gtgttgtgac	ttgacggcaa	cacogctgtg	81571
ctgtaagacc	cgtcggtaaa	tgaaaacgta	atagattcgc	cttttacatg	atccacgtaa	81631
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attaatggta	caagaaacca	tgttttccca	tgtctacgtg	gtacaaaaaa	cacagttgat	81811
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atttaacatc aattoacgga atccgcctca tctcttgtaa gcagtaaac aggaagccgc	82651
gtcatcttac gtaactgta cgtatatata ataaacattt tcagggccgc attcattcac	82711
tttggtc atg tca ggc cac act cca acc tac gct tct cat agg cgt	82757
Met. Ser Gly His Thr Pro Thr Tyr Ala Ser His Arg Arg	
15080	15085

caa	ctg	cag	gac	ctt	tgc	gtt	ccc	acc	aca	ata	ccg	acg	gac	atg	83252
Gln	Leu	Gln	Asp	Leu	Cys	Val	Pro	Thr	Thr	Ile	Pro	Thr	Asp	Met	
15240					15245					15250					
aac	caa	atg	caa	ccg	cag	ccg	atc	agc	aag	aac	gag	aat	cca	cca	83297
Asn	Gln	Met	Gln	Pro	Gln	Pro	Ile	Ser	Lys	Asn	Glu	Asn	Pro	Pro	
15255					15260					15265					
acc	cca	cac	acg	gat	gtg	taa	atcatccatg	ggccaatccg	tcaactgcaa						83348
Thr	Pro	His	Thr	Asp	Val										
15270					15275										
catgcatgga	atcaccagaa	cgatcacaa	agacaagott	atTTTTatta	aagcacggot										83408
taacgagaga	tccaatacat	caacggogaaa	gggtggacgt	ttttccacaa	tttaacaaac										83468
ccccatgggt	ttttagaatt	tccaaattat	ccogtttaat	tgtacccato	ttcacgotca										83528
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ttaatggaac	gggccttact	aaatatactg	gaacotttgc	ccaaagagtt	ggacttgoga										84248
ttgatcttta	tgcattgggc	caagcactct	tagaagttat	cctgctagga	cgtcttcccg										84308
gacaactgcc	catttcagta	catcggaccc	cgcattatca	ctactacggg	cataagttat										84368
caccagattt	ggcgcttgat	acgtgggcac	atcgatgtgt	cctggcgcca	tatatactcc										84428
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ccogtatttc	ccggaattct	ttacgcogga	tattccagtg	tcacgcagtg	cgttacggcg										84548
taacgcactc	aaagcttttc	gaaggcatac	gcattccggc	ctcattatac	ccagccactg										84608
ttgttacato	gttggttgtgt	cacgataatt	cagaaatacg	ctcggatcac	cctttatt										84666
atg	gca	cga	tgc	gga	ttg	gat	agg	atc	gac	ata	agc	ccc	cag	cca	84711
Met	Ala	Arg	Ser	Gly	Leu	Asp	Arg	Ile	Asp	Ile	Ser	Pro	Gln	Pro	
				15280					15285					15290	

gcc aaa aaa att gcc	cgt gtg gga ggt cta	cag cac cct ttt gta	84756
Ala Lys Lys Ile Ala	Arg Val Gly Gly Leu	Gln His Pro Phe Val	
15295	15300	15305	
aaa acg gat att aac	acg att aac gtt gaa	cac cat ttt ata gac	84801
Lys Thr Asp Ile Asn	Thr Ile Asn Val Glu	His His Phe Ile Asp	
15310	15315	15320	
acg cta cag aag aca	tca ccg aac atg gac	tgt cgc ggg atg aca	84846
Thr Leu Gln Lys Thr	Ser Pro Asn Met Asp	Cys Arg Gly Met Thr	
15325	15330	15335	
gcg ggt att ttt att	cgt tta tcc cac atg	tat aaa att cta aca	84891
Ala Gly Ile Phe Ile	Arg Leu Ser His Met	Tyr Lys Ile Leu Thr	
15340	15345	15350	
act ctg gag tct cca	aat gat gta acc tac	aca aca ccc ggt tct	84936
Thr Leu Glu Ser Pro	Asn Asp Val Thr Tyr	Thr Thr Pro Gly Ser	
15355	15360	15365	
acc aac gca ctg ttc	ttt aag acg tcc aca	cag cct cag gag ccg	84981
Thr Asn Ala Leu Phe	Phe Lys Thr Ser Thr	Gln Pro Gln Glu Pro	
15370	15375	15380	
cgt ccg gaa gag tta	gca tcc aaa tta acc	caa gac gac att aaa	85026
Arg Pro Glu Glu Leu	Ala Ser Lys Leu Thr	Gln Asp Asp Ile Lys	
15385	15390	15395	
cgt att cta tta aca	ata gaa tcg gag act	cgt ggt cag ggc gac	85071
Arg Ile Leu Leu Thr	Ile Glu Ser Glu Thr	Arg Gly Gln Gly Asp	
15400	15405	15410	
aat gcc att tgg aca	cta ctg aga cga aat	tta atc acc gca tca	85116
Asn Ala Ile Trp Thr	Leu Leu Arg Arg Asn	Leu Ile Thr Ala Ser	
15415	15420	15425	
act ctt aaa tgg agt	gta tct gga ccc gtc	att cca cct cag tgg	85161
Thr Leu Lys Trp Ser	Val Ser Gly Pro Val	Ile Pro Pro Gln Trp	
15430	15435	15440	
ttt tac cac cat aac	act aca gac aca tac	ggt gat gcg gcg gca	85206
Phe Tyr His His Asn	Thr Thr Asp Thr Tyr	Gly Asp Ala Ala Ala	
15445	15450	15455	
atg gcg ttt gga aaa	acc aac gaa ccg gcg	gca cga gcg ata gtt	85251
Met Ala Phe Gly Lys	Thr Asn Glu Pro Ala	Ala Arg Ala Ile Val	
15460	15465	15470	
gaa gca ttg ttt ata	gat ccg gct gat atc	cgt act cct gat cat	85296
Glu Ala Leu Phe Ile	Asp Pro Ala Asp Ile	Arg Thr Pro Asp His	
15475	15480	15485	
tta acg cca gaa gct	aca act aag ttt ttt	aat ttt gac atg ctc	85341
Leu Thr Pro Glu Ala	Thr Thr Lys Phe Phe	Asn Phe Asp Met Leu	
15490	15495	15500	
aat acc aaa tct cca	agt ctg ctt gtg ggt	aca cca aga atc gga	85386
Asn Thr Lys Ser Pro	Ser Leu Leu Val Gly	Thr Pro Arg Ile Gly	
15505	15510	15515	

acg tat gaa tgt gga	ctt tta atc gac gtt	cga acg gga ctt ata	85431
Thr Tyr Glu Cys Gly	Leu Leu Ile Asp Val	Arg Thr Gly Leu Ile	
15520	15525	15530	
ggc gcg tcg ttg gac	gtt ctt gta tgt gac	agg gac cct tta act	85476
Gly Ala Ser Leu Asp	Val Leu Val Cys Asp	Arg Asp Pro Leu Thr	
15535	15540	15545	
ggc acc cta aat ccc	cac cct gca gaa acc	gac att tca ttt ttt	85521
Gly Thr Leu Asn Pro	His Pro Ala Glu Thr	Asp Ile Ser Phe Phe	
15550	15555	15560	
gaa att aaa tgt cgt	got aaa tac ctc ttt	gat cca gat gac aaa	85566
Glu Ile Lys Cys Arg	Ala Lys Tyr Leu Phe	Asp Pro Asp Asp Lys	
15565	15570	15575	
aat aac ccg ctc ggt	cgg acg tac acc acg	tta ata aat aga cct	85611
Asn Asn Pro Leu Gly	Arg Thr Tyr Thr Thr	Leu Ile Asn Arg Pro	
15580	15585	15590	
aca atg gca aat cta	cgg gac ttt tta tat	act ata aaa aac cca	85656
Thr Met Ala Asn Leu	Arg Asp Phe Leu Tyr	Thr Ile Lys Asn Pro	
15595	15600	15605	
tgt gta agc ttc ttt	gga ccc tca gca aac	cca agt aca cgc gag	85701
Cys Val Ser Phe Phe	Gly Pro Ser Ala Asn	Pro Ser Thr Arg Glu	
15610	15615	15620	
gcc tta ata acg gat	cac gtt gaa tgg aaa	cgt tta gga ttt aaa	85746
Ala Leu Ile Thr Asp	His Val Glu Trp Lys	Arg Leu Gly Phe Lys	
15625	15630	15635	
ggt ggg agg gcc ctt	aca gaa ctc gac gcc	cat cat ttg ggc ctc	85791
Gly Gly Arg Ala Leu	Thr Glu Leu Asp Ala	His His Leu Gly Leu	
15640	15645	15650	
aat cgg aca atc tca	tcc cga gtg tgg gta	ttt aat gat ccg gac	85836
Asn Arg Thr Ile Ser	Ser Arg Val Trp Val	Phe Asn Asp Pro Asp	
15655	15660	15665	
ata caa aag ggg aca	att aca acc att gca	tgg gcc act gga gat	85881
Ile Gln Lys Gly Thr	Ile Thr Thr Ile Ala	Trp Ala Thr Gly Asp	
15670	15675	15680	
acg gct ctt caa att	cct gta ttt gcc aat	ccg cgg cac gct aac	85926
Thr Ala Leu Gln Ile	Pro Val Phe Ala Asn	Pro Arg His Ala Asn	
15685	15690	15695	
ttt aaa caa att gcc	gta caa acc tat gta	tta tcc ggt tac ttt	85971
Phe Lys Gln Ile Ala	Val Gln Thr Tyr Val	Leu Ser Gly Tyr Phe	
15700	15705	15710	
cca gcg cta aaa cta	cgg ccc ttc ctt gtc	acc ttt ata gga cgt	86016
Pro Ala Leu Lys Leu	Arg Pro Phe Leu Val	Thr Phe Ile Gly Arg	
15715	15720	15725	
gtg cgc cga cca cac	gag gtg gga gtc cca	ttg cgc gtc gat aca	86061
Val Arg Arg Pro His	Glu Val Gly Val Pro	Leu Arg Val Asp Thr	
15730	15735	15740	

caa gcg gct gcc att	tac gaa tat aac tgg	ccg act atc cca ccc	86106
Gln Ala Ala Ala Ile	Tyr Glu Tyr Asn Trp	Pro Thr Ile Pro Pro	
15745	15750	15755	
cac tgt gcg gtt ccg	gtt ata gcc gtt cta	acg cct atc gaa gtt	86151
His Cys Ala Val Pro	Val Ile Ala Val Leu	Thr Pro Ile Glu Val	
15760	15765	15770	
gat gtg cct aga gtg	aca caa ata ctt aaa	gac aca gga aac aac	86196
Asp Val Pro Arg Val	Thr Gln Ile Leu Lys	Asp Thr Gly Asn Asn	
15775	15780	15785	
gcg att aca tca gca	ttg cgg tca ttg cga	tggtgac aat ctt cat	86241
Ala Ile Thr Ser Ala	Leu Arg Ser Leu Arg	Trp Asp Asn Leu His	
15790	15795	15800	
cca gcg gtc gag gag	gaa tot gtg gat tgt	gca aac ggt aca acg	86286
Pro Ala Val Glu Glu	Glu Ser Val Asp Cys	Ala Asn Gly Thr Thr	
15805	15810	15815	
agc ttg tta cgt gca	acg gag aaa ccg ttg	ctt tga actcagagtt	86332
Ser Leu Leu Arg Ala	Thr Glu Lys Pro Leu	Leu	
15820	15825		
ctttgaagac tttgactttg	atgagaatgt aacagaggac	gccgataaat ccacacaacg	86392
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caaatgcgca aaatgttaaa	ccctgataaaa cccctgataaa	cgttctaata aaaacatcaa	86512
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	Met Ser Pro

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Asn Thr Gly Glu Ser Asn Ala Ala Val Tyr Ala Ser Ser Thr Gln	
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Leu Ala Arg Ala Leu Tyr Gly Gly Asp Leu Val Ser Trp Ile Lys	
15845 15850 15855	

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His Thr His Pro Gly Ile Ser Leu Glu Leu Gln Leu Asp Val Pro	
15860 15865 15870	

gta aaa cta ata aaa cct ggt atg tca caa act cgc ccg gta acc	88069
Val Lys Leu Ile Lys Pro Gly Met Ser Gln Thr Arg Pro Val Thr	
15875 15880 15885	

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Val Val Arg Ala Pro Met Gly Ser Gly Lys Thr Thr Ala Leu Leu	
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Glu Trp Leu Gln His Ala Leu Lys Ala Asp Ile Ser Val Leu Val	
15905 15910 15915	

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Val Ser Cys Arg Arg Ser Phe Thr Gln Thr Leu Ile Gln Arg Phe	
15920 15925 15930	

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Asn Asp Ala Gly Leu Ser Gly Phe Val Thr Tyr Leu Thr Ser Glu	
15935 15940 15945	

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Thr Tyr Ile Met Gly Phe Lys Arg Leu Ile Val Gln Leu Glu Ser	
15950 15955 15960	

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Leu His Arg Val Ser Ser Glu Ala Ile Asp Ser Tyr Asp Val Leu	
15965 15970 15975	

ata ctg gat gag gta atg tca gtg att gga caa tta tac tcc ccc	88384
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Ile 15980	Leu Asp Glu Val Met 15985	Ser Val Ile Gly Gln 15990	Leu Tyr Ser Pro	
aca Thr 15995	atg aga cgt ctt tcc Met Arg Arg Leu Ser 16000	gcg gtt gat agc cta Ala Val Asp Ser Leu 16005	tta tat cgt ctt Leu Tyr Arg Leu	88429
tta Leu 16010	aat cgc tgt tct caa Asn Arg Cys Ser Gln 16015	att atc gcg atg gat Ile Ile Ala Met Asp 16020	gct aca gta aac Ala Thr Val Asn	88474
tcg Ser 16025	cag ttt att gat tta Gln Phe Ile Asp Leu 16030	atc tcc gga ttg cgt Ile Ser Gly Leu Arg 16035	gga gat gaa aac Gly Asp Glu Asn	88519
ata Ile 16040	cac aca att gtg tgt His Thr Ile Val Cys 16045	aca tac gcg gga gtt Thr Tyr Ala Gly Val 16050	ggg ttc tcc gga Gly Phe Ser Gly	88564
aga Arg 16055	act tgc acg atc ctg Thr Cys Thr Ile Leu 16060	cgt gat atg ggc atc Arg Asp Met Gly Ile 16065	gac acg ctt gtg Asp Thr Leu Val	88609
cga Arg 16070	gtc att aaa cga tct Val Ile Lys Arg Ser 16075	cct gaa cac gag gat Pro Glu His Glu Asp 16080	gta cgt acc ata Val Arg Thr Ile	88654
cac His 16085	caa cta cgt gga aca Gln Leu Arg Gly Thr 16090	ttt ttt gac gaa cta Phe Phe Asp Glu Leu 16095	gca cta cga tta Ala Leu Arg Leu	88699
caa Gln 16100	tgt ggg cat aac atc Cys Gly His Asn Ile 16105	tgt ata ttt tca tca Cys Ile Phe Ser Ser 16110	act tta tcg ttt Thr Leu Ser Phe	88744
tcg Ser 16115	gag cta gtt gct cag Glu Leu Val Ala Gln 16120	ttt tgt gca ata ttt Phe Cys Ala Ile Phe 16125	aca gac tct att Thr Asp Ser Ile	88789
ctt Leu 16130	att tta aac tca act Ile Leu Asn Ser Thr 16135	cgg ccc cta tgt aat Arg Pro Leu Cys Asn 16140	gta aac gaa tgg Val Asn Glu Trp	88834
aaa Lys 16145	cat ttt cgc gtg ttg His Phe Arg Val Leu 16150	gtg tac act acc gtc Val Tyr Thr Thr Val 16155	gtg acc gtt gga Val Thr Val Gly	88879
ttg Leu 16160	agt ttt gac atg gct Ser Phe Asp Met Ala 16165	cat ttt cat agc atg His Phe His Ser Met 16170	ttt gct tac ata Phe Ala Tyr Ile	88924
aag Lys 16175	cca atg tca tat ggg Pro Met Ser Tyr Gly 16180	cgg gat atg gta tcg Pro Asp Met Val Ser 16185	gtc tac cag tca Val Tyr Gln Ser	88969
tta Leu 16190	ggg cgt gta cgt tta Gly Arg Val Arg Leu 16195	ttg cta ctt aat gaa Leu Leu Leu Asn Glu 16200	gtt ttg atg tac Val Leu Met Tyr	89014
gtc	gat ggc tca agg acc	aga tgc gga ccc ctg	ttc tcg cca atg	89059

Val 16205	Asp	Gly	Ser	Arg	Thr 16210	Arg	Cys	Gly	Pro	Leu 16215	Phe	Ser	Pro	Met	
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cac His 16235	acc Thr	caa Gln	ata Ile	act Thr	aac Asn 16240	aaa Lys	ctg Leu	tgc Cys	tgt Cys	gca Ala 16245	ttt Phe	agg Arg	caa Gln	cga Arg	89149
tgt Cys 16250	gca Ala	aat Asn	gca Ala	ttt Phe	aca Thr 16255	cgc Arg	tgc Ser	aac Asn	acc Thr	cat His 16260	ctc Leu	ttc Phe	tca Ser	aga Arg	89194
ttt Phe 16265	aaa Lys	tac Tyr	aaa Lys	cac His	ctt Leu 16270	ttc Phe	gag Glu	aga Arg	tgc Cys	tct Ser 16275	ctt Leu	tgg Trp	agt Ser	tta Leu	89239
gcc Ala 16280	gat Asp	agc Ser	att Ile	aat Asn	atc Ile 16285	tta Leu	caa Gln	act Thr	ctt Leu	ttg Leu 16290	gcc Ala	tct Ser	aac Asn	caa Gln	89284
att Ile 16295	ttg Leu	gtt Val	gta Val	ttg Leu	gat Asp 16300	ggc Gly	atg Met	ggt Gly	cca Pro	ata Ile 16305	acg Thr	gac Asp	gtt Val	tcc Ser	89329
cca Pro 16310	gtt Val	caa Gln	ttt Phe	tgt Cys	gca Ala 16315	ttt Phe	ata Ile	cac His	gat Asp	ctc Leu 16320	aga Arg	cat His	agc Ser	gct Ala	89374
aac Asn 16325	gcc Ala	gta Val	gct Ala	tcc Ser	tgt Cys 16330	atg Met	cgt Arg	tct Ser	ctt Leu	aga Arg 16335	cag Gln	gac Asp	aat Asn	gac Asp	89419
agc Ser 16340	tgc Cys	ttg Leu	acc Thr	gat Asp	ttt Phe 16345	ggc Gly	cct Pro	tcc Ser	gga Gly	ttt Phe 16350	atg Met	gcc Ala	gat Asp	aac Asn	89464
att Ile 16355	acc Thr	gcg Ala	ttt Phe	atg Met	gaa Glu 16360	aag Lys	tat Tyr	ctt Leu	atg Met	gag Glu 16365	tca Ser	att Ile	aat Asn	acc Thr	89509
gaa Glu 16370	gaa Glu	caa Gln	att Ile	aaa Lys	gta Val 16375	ttt Phe	aaa Lys	gcc Ala	ctt Leu	gca Ala 16380	tgt Cys	cca Pro	ata Ile	gaa Glu	89554
cag Gln 16385	cct Pro	aga Arg	cta Leu	gtc Val	aat Asn 16390	acg Thr	gca Ala	ata Ile	ttg Leu	ggg Gly 16395	gcg Ala	tgt Cys	ata Ile	cga Arg	89599
ata Ile 16400	cct Pro	gaa Glu	gcg Ala	ttg Leu	gaa Glu 16405	gca Ala	ttt Phe	gac Asp	gta Val	ttt Phe 16410	caa Gln	aaa Lys	ata Ile	tac Tyr	89644
acg Thr 16415	cac His	tac Tyr	gct Ala	tcc Ser	ggt Gly 16420	tgg Trp	ttt Phe	ccc Pro	gtc Val	ctg Leu 16425	gac Asp	aaa Lys	acc Thr	ggg Gly	89689
gaa	ttt	agc	atc	gcg	act	ata	act	acc	gcc	cca	aat	tta	acc	aca	89734

Glu	Phe	Ser	Ile	Ala	Thr	Ile	Thr	Thr	Ala	Pro	Asn	Leu	Thr	Thr	
16430					16435					16440					
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His	Trp	Glu	Leu	Phe	Arg	Arg	Cys	Ala	Tyr	Ile	Ala	Lys	Thr	Leu	
16445					16450					16455					
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Lys	Trp	Asn	Pro	Ser	Thr	Glu	Gly	Cys	Val	Thr	Gln	Val	Leu	Asp	
16460					16465					16470					
acg	gac	att	aat	aca	ctt	ttc	aat	caa	cac	ggg	gat	tgg	ctg	got	89869
Thr	Asp	Ile	Asn	Thr	Leu	Phe	Asn	Gln	His	Gly	Asp	Ser	Leu	Ala	
16475					16480					16485					
caa	cta	ata	ttt	gag	gtt	atg	cgc	tgt	aac	gtt	act	gac	gct	aag	89914
Gln	Leu	Ile	Phe	Glu	Val	Met	Arg	Cys	Asn	Val	Thr	Asp	Ala	Lys	
16490					16495					16500					
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Ile	Ile	Leu	Asn	Arg	Pro	Val	Trp	Arg	Thr	Thr	Gly	Phe	Leu	Asp	
16505					16510					16515					
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Gly	Cys	His	Asn	Gln	Cys	Phe	Arg	Pro	Ile	Pro	Thr	Lys	His	Glu	
16520					16525					16530					
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Tyr	Asn	Ile	Ala	Leu	Phe	Arg	Leu	Ile	Trp	Glu	Gln	Leu	Phe	Gly	
16535					16540					16545					
gcc	cgc	gta	act	aaa	agt	acc	cag	acc	ttt	ccg	gga	agt	act	cgt	90094
Ala	Arg	Val	Thr	Lys	Ser	Thr	Gln	Thr	Phe	Pro	Gly	Ser	Thr	Arg	
16550					16555					16560					
gtg	aaa	aac	cta	aaa	aaa	aaa	gat	cta	gaa	act	tta	ott	gat	tca	90139
Val	Lys	Asn	Leu	Lys	Lys	Lys	Asp	Leu	Glu	Thr	Leu	Leu	Asp	Ser	
16565					16570					16575					
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Ile	Asn	Val	Asp	Arg	Ser	Ala	Cys	Arg	Thr	Tyr	Arg	Gln	Leu	Tyr	
16580					16585					16590					
aac	ctg	ctt	atg	agc	cag	cgc	cat	tcg	ttc	tct	caa	cag	cgt	tac	90229
Asn	Leu	Leu	Met	Ser	Gln	Arg	His	Ser	Phe	Ser	Gln	Gln	Arg	Tyr	
16595					16600					16605					
aaa	att	act	gcc	ccc	gct	tgg	gca	cgc	cac	gtg	tat	ttt	caa	gca	90274
Lys	Ile	Thr	Ala	Pro	Ala	Trp	Ala	Arg	His	Val	Tyr	Phe	Gln	Ala	
16610					16615					16620					
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His	Gln	Met	His	Leu	Ala	Pro	His	Ala	Glu	Ala	Met	Leu	Gln	Leu	
16625					16630					16635					
gcg	cta	tcg	gaa	ctg	tcg	ccg	gga	tcg	tgg	ccg	ccg	ata	aac	ggg	90364
Ala	Leu	Ser	Glu	Leu	Ser	Pro	Gly	Ser	Trp	Pro	Arg	Ile	Asn	Gly	
16640					16645					16650					
gcg	gta	aat	ttt	gaa	agt	tta	taa	ccg	gta	ccat	atat	atgg			90408

Ala Val Asn Phe Glu Ser Leu
16655 16660

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aatgcactga accacaacca agct atg gac gca acg cag att acc ttg 90516
Met Asp Ala Thr Gln Ile Thr Leu
16665

gtt aga gaa agc gga cac att tgt gcc gca agc ata tac aca tcc 90561
Val Arg Glu Ser Gly His Ile Cys Ala Ala Ser Ile Tyr Thr Ser
16670 16675 16680

tgg aca cag tcc gga caa tta aca cag aac ggt ctt tcc gtg tta 90606
Trp Thr Gln Ser Gly Gln Leu Thr Gln Asn Gly Leu Ser Val Leu
16685 16690 16695

tac tac tta tta tgc aaa aac tca tgt ggg aaa tac gtc cct aag 90651
Tyr Tyr Leu Leu Cys Lys Asn Ser Cys Gly Lys Tyr Val Pro Lys
16700 16705 16710

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Phe Ala Glu Ile Thr Val Gln Gln Glu Asp Leu Cys Arg Tyr Ser
16715 16720 16725

agg cat ggg ggg agt gtt tct gcg gca acg ttt gcg tct atc tgc 90741
Arg His Gly Gly Ser Val Ser Ala Ala Thr Phe Ala Ser Ile Cys
16730 16735 16740

agg gcg gcg tcc tgc gct gcg tta gac gcc tgg ccc ctt gaa cca 90786
Arg Ala Ala Ser Ser Ala Ala Leu Asp Ala Trp Pro Leu Glu Pro
16745 16750 16755

ctg ggt aac gca gac acc tgg cgt tgt ctc cat ggc act gcc ctg 90831
Leu Gly Asn Ala Asp Thr Trp Arg Cys Leu His Gly Thr Ala Leu
16760 16765 16770

gcc act tta cgg cgc gta tta ggg ttt aaa tgc ttt tat tgc cca 90876
Ala Thr Leu Arg Arg Val Leu Gly Phe Lys Ser Phe Tyr Ser Pro
16775 16780 16785

gta aca ttc gag act gat acg aat aca ggt ctt ctg tta aaa aca 90921
Val Thr Phe Glu Thr Asp Thr Asn Thr Gly Leu Leu Leu Lys Thr
16790 16795 16800

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Ile Pro Asp Glu His Ala Leu Asn Asn Asp Asn Thr Pro Ser Thr
16805 16810 16815

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Gly Val Leu Arg Ala Asn Phe Pro Val Ala Ile Asp Val Ser Ala
16820 16825 16830

gtc agc gca tgt aac gcc cac acg caa ggt acg tgc cta gcc tac 91056
Val Ser Ala Cys Asn Ala His Thr Gln Gly Thr Ser Leu Ala Tyr
16835 16840 16845

gcc cgc ctg acc gca ctt aaa tct aac ggt gac acc cag caa caa 91101
Ala Arg Leu Thr Ala Leu Lys Ser Asn Gly Asp Thr Gln Gln Gln
16850 16855 16860

aca Thr 16865	cct tta gac gtg gag Pro Leu Asp Val Glu 16870	gta att aca cca aag Val Ile Thr Pro Lys 16875	gcc tac ata cgt Ala Tyr Ile Arg	91146
cgg Arg 16880	aaa tat aag tct acg Lys Tyr Lys Ser Thr 16885	ttt tcc ccc cct ata Phe Ser Pro Pro Ile 16890	gag cgg gaa ggc Glu Arg Glu Gly	91191
caa Gln 16895	acc tcc gat ttg ttt Thr Ser Asp Leu Phe 16900	aac ctt gaa gaa cgc Asn Leu Glu Glu Arg 16905	cgc ttg gtt ctt Arg Leu Val Leu	91236
agt Ser 16910	ggc aat cgc gca att Gly Asn Arg Ala Ile 16915	gtg gta agg gta ctc Val Val Arg Val Leu 16920	tta ccg tgt tat Leu Pro Cys Tyr	91281
ttt Phe 16925	gac tgt tta aca acg Asp Cys Leu Thr Thr 16930	gat tcc acc gtt aca Asp Ser Thr Val Thr 16935	tot tcc ctt tca Ser Ser Leu Ser	91326
ata Ile 16940	tta gca aca tat aga Leu Ala Thr Tyr Arg 16945	ctg tgg tac gcg gcg Leu Trp Tyr Ala Ala 16950	gcg ttt gga aaa Ala Phe Gly Lys	91371
ccc Pro 16955	ggg gtt gtc cgt cca Gly Val Val Arg Pro 16960	atc ttt gcg tat tta Ile Phe Ala Tyr Leu 16965	ggc ccg gaa ctc Gly Pro Glu Leu	91416
aat Asn 16970	ccg aag ggt gaa gac Pro Lys Gly Glu Asp 16975	aga gac tac ttt tgt Arg Asp Tyr Phe Cys 16980	act gtc gga ttt Thr Val Gly Phe	91461
ccc Pro 16985	gga tgg acc act ctt Gly Trp Thr Thr Leu 16990	cgg aca caa act cca Arg Thr Gln Thr Pro 16995	gcc gtc gaa tot Ala Val Glu Ser	91506
att Ile 17000	cgc acg gct acg gag Arg Thr Ala Thr Glu 17005	atg tac atg gaa acg Met Tyr Met Glu Thr 17010	gat ggg ttg tgg Asp Gly Leu Trp	91551
cca Pro 17015	gta acc ggt att cag Val Thr Gly Ile Gln 17020	gcc ttt cat tat cta Ala Phe His Tyr Leu 17025	gcc ccc tgg gga Ala Pro Trp Gly	91596
cag Gln 17030	cat ccc ccc tta cct His Pro Pro Leu Pro 17035	ccg cgg gtg cag gat Pro Arg Val Gln Asp 17040	ctt att ggg caa Leu Ile Gly Gln	91641
atc Ile 17045	cct caa gat act gga Pro Gln Asp Thr Gly 17050	cat gca gat gca act His Ala Asp Ala Thr 17055	gtc aat tgg gac Val Asn Trp Asp	91686
gcg Ala 17060	ggc cgg ata tct acc Gly Arg Ile Ser Thr 17065	gtc ttc aaa cag cct Val Phe Lys Gln Pro 17070	gta caa cta caa Val Gln Leu Gln	91731
gat Asp 17075	cgt tgg atg gca aag Arg Trp Met Ala Lys 17080	ttt gat ttc agc gcc Phe Asp Phe Ser Ala 17085	ttt ttt ccc acg Phe Phe Pro Thr	91776

ata Ile 17090	tac tgc gct atg ttc Tyr Cys Ala Met Phe 17095	ccc atg cat ttt aga Pro Met His Phe Arg 17100	tta ggc aaa atc Leu Gly Lys Ile	91821
gtc Val 17105	ctg gct aga atg cgt Leu Ala Arg Met Arg 17110	cga gga atg ggg tgc Arg Gly Met Gly Cys 17115	cta aaa ccc gcg Leu Lys Pro Ala	91866
ttg Leu 17120	gtg tct ttt ttt ggg Val Ser Phe Phe Gly 17125	ggg tta cgg cac ata Gly Leu Arg His Ile 17130	ctc ccg agt ata Leu Pro Ser Ile	91911
tac Tyr 17135	aaa gct att att ttt Lys Ala Ile Ile Phe 17140	ata gcc aat gaa att Ile Ala Asn Glu Ile 17145	agc ctt tgc gtc Ser Leu Cys Val	91956
gaa Glu 17150	caa acg gcc ttg gaa Gln Thr Ala Leu Glu 17155	cag ggc ttt gct ata Gln Gly Phe Ala Ile 17160	tgt act tat ata Cys Thr Tyr Ile	92001
aaa Lys 17165	gat gga ttt tgg gga Asp Gly Phe Trp Gly 17170	atc ttc acc gat tta Ile Phe Thr Asp Leu 17175	cat acg cgc aat His Thr Arg Asn	92046
gta Val 17180	tgt tca gat cag gca Cys Ser Asp Gln Ala 17185	cgt tgt tcg gcc tta Arg Cys Ser Ala Leu 17190	aat tta gcg gcc Asn Leu Ala Ala	92091
acc Thr 17195	tgc gaa aga gca gtc Cys Glu Arg Ala Val 17200	acg ggc tta tta cga Thr Gly Leu Leu Arg 17205	att caa cta ggt Ile Gln Leu Gly	92136
ctt Leu 17210	aac ttt aca ccc gcc Asn Phe Thr Pro Ala 17215	atg gaa ccg gta ctc Met Glu Pro Val Leu 17220	cgg gtc gag ggt Arg Val Glu Gly	92181
gtg Val 17225	tac act cac gca ttt Tyr Thr His Ala Phe 17230	acc tgg tgt acc acg Thr Trp Cys Thr Thr 17235	gga agc tgg ctg Gly Ser Trp Leu	92226
tgg Trp 17240	aat tta caa aca aac Asn Leu Gln Thr Asn 17245	acg cot ccg gat tta Thr Pro Pro Asp Leu 17250	gtt ggc gtg cca Val Gly Val Pro	92271
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ctc Leu 17270	cta tgt acc gca aca Leu Cys Thr Ala Thr 17275	aaa att cga gaa cgg Lys Ile Arg Glu Arg 17280	ata cag gaa aat Ile Gln Glu Asn	92361
tgc Cys 17285	ata tgg gac cat gtc Ile Trp Asp His Val 17290	cta tac gac ata tgg Leu Tyr Asp Ile Trp 17295	gcc gga caa gtt Ala Gly Gln Val	92406
gtg Val 17300	gag gct gcc aga aaa Glu Ala Ala Arg Lys 17305	aca tac gtc gat ttt Thr Tyr Val Asp Phe 17310	ttt gaa cat gtt Phe Glu His Val	92451

ttt	gat cgc cgt tat act	cgg gta tac tgg agt	ctt cag gag caa	
Phe	Asp Arg Arg Tyr Thr	Pro Val Tyr Trp Ser	Leu Gln Glu Gln	92496
17315		17320	17325	
aat	tcg gaa aca aaa gca	ata ccg goa tot tat	ctg aca tac gga	92541
Asn	Ser Glu Thr Lys Ala	Ile Pro Ala Ser Tyr	Leu Thr Tyr Gly	
17330		17335	17340	
cac	atg caa gat aag gat	tat aaa cea aga cag	ata att atg gtt	92586
His	Met Gln Asp Lys Asp	Tyr Lys Pro Arg Gln	Ile Ile Met Val	
17345		17350	17355	
cgt	aat ccc aac cea cat	gga oct cot act gtt	gtt tac tgg gaa	92631
Arg	Asn Pro Asn Pro His	Gly Pro Pro Thr Val	Val Tyr Trp Glu	
17360		17365	17370	
ttg	cta cea tcg tgt gcc	tgt att ccc ccc ata	gac tgc got get	92676
Leu	Leu Pro Ser Cys Ala	Cys Ile Pro Pro Ile	Asp Cys Ala Ala	
17375		17380	17385	
cat	otc aag ccc ott ata	cac acg ttt gto act	att att aac cat	92721
His	Leu Lys Pro Leu Ile	His Thr Phe Val Thr	Ile Ile Asn His	
17390		17395	17400	
ott	ota gat got cat aat	gat ttt coa agt cea	tca ttg aaa ttt	92766
Leu	Leu Asp Ala His Asn	Asp Phe Ser Ser Pro	Ser Leu Lys Phe	
17405		17410	17415	
act	gac gat ccc ott got	tca tat aac tto ttg	ttt tta tga	92808
Thr	Asp Asp Pro Leu Ala	Ser Tyr Asn Phe Leu	Phe Leu	
17420		17425	17430	
caaaaaaacaca	cgcgcgaaca acccatacott	aaaataaaaag gttaaatttac	tttacaaccoc	92868
gttgtgaatt	tttatagctt tcaaataaat	gaacatTTTTT cggttgtago	atggtgogat	92928
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atccccgggg	tacttgcaac adacctctg	gacagggggg gggtccgtgg	ggcaggtcaa	93048
aacgotgacc	caooooaat gaatatatag	cotTTATAAT attgggggcc	gttccagggt	93108
gagggttcag	taacttaaca aacatatagt	ggggcaatac gogggtTTTT	gtaaaggggt	93168
tggtatcoac	gacatacatt agagtgttta	adaaccataa aaactcotca	tataaaaaco	93228
gaogcatTTT	ttccaaagggt octatttgac	aotcaacgeg totaagatat	acagacaatt	93288
gtacaaacag	ogatgygat gcccoggagg	gccaatgcc ttccagatac	attaanaata	93348
cacataagg	aaaatctagg acattatccg	ggcggaatag agtcatccga	tagattaaac	93408
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Met Lys Arg Ser Ile Ser Val Asp Ser Ser Ser Pro Lys	
17435 17440 17445	
aac gtt ttt aat cca gag acg ccc aat gga ttt gat gac agt gta	96079
Asn Val Phe Asn Pro Glu Thr Pro Asn Gly Phe Asp Asp Ser Val	
17450 17455 17460	
tat tta aac ttc acc tct atg cat agc att caa cct atc ctc tca	96124
Tyr Leu Asn Phe Thr Ser Met His Ser Ile Gln Pro Ile Leu Ser	
17465 17470 17475	
cgg att cga gaa ctt gcc gca att acg att cca aaa gaa cgt gtt	96169
Arg Ile Arg Glu Leu Ala Ala Ile Thr Ile Pro Lys Glu Arg Val	
17480 17485 17490	
cgg cgg ttg tgt tgg ttt aaa cag tta ctc gaa ctg caa gcg cct	96214
Pro Arg Leu Cys Trp Phe Lys Gln Leu Leu Glu Leu Gln Ala Pro	
17495 17500 17505	
cct gaa atg cag agg aat gag ctc ccc ttc tcc gtt tat tta att	96259
Pro Glu Met Gln Arg Asn Glu Leu Pro Phe Ser Val Tyr Leu Ile	
17510 17515 17520	
agc gga aat gcc ggc tcc gga aaa agc acg tgt atc caa acg ctt	96304
Ser Gly Asn Ala Gly Ser Gly Lys Ser Thr Cys Ile Gln Thr Leu	
17525 17530 17535	
aac gaa gct atc gat tgc att att acc gga tcc acc agg gtt gct	96349
Asn Glu Ala Ile Asp Cys Ile Ile Thr Gly Ser Thr Arg Val Ala	
17540 17545 17550	
gcc caa aat gtt cat gct aag tta tca acg gct tat gcg agt cgt	96394
Ala Gln Asn Val His Ala Lys Leu Ser Thr Ala Tyr Ala Ser Arg	
17555 17560 17565	
cgg ata aac aca atc ttt cat gaa ttt ggt ttt cgc gga aat cac	96439
Pro Ile Asn Thr Ile Phe His Glu Phe Gly Phe Arg Gly Asn His	
17570 17575 17580	
att cag gct cag ctg ggc cgt tac gca tat aac tgg act acg acc	96484

Ile	Gln	Ala	Gln	Leu	Gly	Arg	Tyr	Ala	Tyr	Asn	Trp	Thr	Thr	Thr	
				17585					17590						17595
ccc	cct	tct	att	gag	gac	ctg	caa	aaa	aga	gat	att	gta	tac	tac	96529
Pro	Pro	Ser	Ile	Glu	Asp	Leu	Gln	Lys	Arg	Asp	Ile	Val	Tyr	Tyr	
				17600					17605						17610
tgg	gaa	gtt	tta	att	gat	ata	aca	aaa	cga	gtg	ttt	caa	atg	ggg	96574
Trp	Glu	Val	Leu	Ile	Asp	Ile	Thr	Lys	Arg	Val	Phe	Gln	Met	Gly	
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gac	gac	ggt	cgc	gga	gga	aca	tog	aca	ttt	aaa	acc	ctg	tgg	gca	96619
Asp	Asp	Gly	Arg	Gly	Gly	Thr	Ser	Thr	Phe	Lys	Thr	Leu	Trp	Ala	
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att	gaa	cgt	ttg	ctt	aat	aaa	cct	aca	ggc	tca	atg	tcc	gga	acc	96664
Ile	Glu	Arg	Leu	Leu	Asn	Lys	Pro	Thr	Gly	Ser	Met	Ser	Gly	Thr	
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gcg	ttt	atc	gca	tgc	ggg	tcc	ctt	ccg	gct	ttt	acc	cgg	agc	aac	96709
Ala	Phe	Ile	Ala	Cys	Gly	Ser	Leu	Pro	Ala	Phe	Thr	Arg	Ser	Asn	
				17660					17665						17670
gtt	att	gtt	att	gat	gaa	gca	gga	ttg	cta	ggg	cgt	cat	att	ctc	96754
Val	Ile	Val	Ile	Asp	Glu	Ala	Gly	Leu	Leu	Gly	Arg	His	Ile	Leu	
				17675					17680						17685
acg	gcc	gtt	gtt	tac	tgt	tgg	tgg	ctt	ttg	aat	gct	ata	tat	caa	96799
Thr	Ala	Val	Val	Tyr	Cys	Trp	Trp	Leu	Leu	Asn	Ala	Ile	Tyr	Gln	
				17690					17695						17700
agc	cct	cag	tac	ata	aac	ggt	cga	aaa	ccg	gtc	ata	gta	tgc	gtc	96844
Ser	Pro	Gln	Tyr	Ile	Asn	Gly	Arg	Lys	Pro	Val	Ile	Val	Cys	Val	
				17705					17710						17715
ggg	tgc	ccc	acc	caa	act	gac	tgc	tta	gaa	tct	cat	ttt	caa	cat	96889
Gly	Ser	Pro	Thr	Gln	Thr	Asp	Ser	Leu	Glu	Ser	His	Phe	Gln	His	
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gac	atg	cag	cgt	tca	cac	gta	act	cct	agt	gaa	aat	ata	ctc	acg	96934
Asp	Met	Gln	Arg	Ser	His	Val	Thr	Pro	Ser	Glu	Asn	Ile	Leu	Thr	
				17735					17740						17745
tat	ata	atc	tgc	aat	caa	act	ctg	cgt	caa	tat	act	aac	atc	tca	96979
Tyr	Ile	Ile	Cys	Asn	Gln	Thr	Leu	Arg	Gln	Tyr	Thr	Asn	Ile	Ser	
				17750					17755						17760
cat	aac	tgg	gca	atc	ttt	att	aat	aac	aaa	cga	tgt	caa	gag	gac	97024
His	Asn	Trp	Ala	Ile	Phe	Ile	Asn	Asn	Lys	Arg	Cys	Gln	Glu	Asp	
				17765					17770						17775
gat	ttt	gga	aat	ctt	tta	aaa	acg	ctt	gag	tac	ggg	cta	cct	att	97069
Asp	Phe	Gly	Asn	Leu	Leu	Lys	Thr	Leu	Glu	Tyr	Gly	Leu	Pro	Ile	
				17780					17785						17790
acc	gaa	gca	cat	gcg	cgt	ctg	gtc	gat	aca	ttt	gtt	gta	cct	gca	97114
Thr	Glu	Ala	His	Ala	Arg	Leu	Val	Asp	Thr	Phe	Val	Val	Pro	Ala	
				17795					17800						17805
tcc	tat	att	aac	aat	cct	gct	aat	ctt	ccc	gga	tgg	acg	cgt	ctg	97159

Ser Tyr Ile Asn Asn	Pro Ala Asn Leu Pro	Gly Trp Thr Arg Leu	
17810	17815	17820	
tat tcg tcg cat aag	gag gtg agc gcg tat	atg agt aag tta cac	97204
Tyr Ser Ser His Lys	Glu Val Ser Ala Tyr	Met Ser Lys Leu His	
17825	17830	17835	
gcg cat tta aaa cta	tcg aaa aat gac cat	ttt tct gtg ttt gcc	97249
Ala His Leu Lys Leu	Ser Lys Asn Asp His	Phe Ser Val Phe Ala	
17840	17845	17850	
tta ccg act tat aca	tto atc cgg cta acg	gca ttt gat gaa tac	97294
Leu Pro Thr Tyr Thr	Phe Ile Arg Leu Thr	Ala Phe Asp Glu Tyr	
17855	17860	17865	
cgc aaa tta acg gga	caa ccc gga ctt tct	gtt gaa cat tgg ata	97339
Arg Lys Leu Thr Gly	Gln Pro Gly Leu Ser	Val Glu His Trp Ile	
17870	17875	17880	
cgg gca aac tcc ggt	cgt ttg cac aat tat	tcc caa agc cga gat	97384
Arg Ala Asn Ser Gly	Arg Leu His Asn Tyr	Ser Gln Ser Arg Asp	
17885	17890	17895	
cat gac atg gga aca	gtt aaa tac gaa aca	cat tca aat cgc gac	97429
His Asp Met Gly Thr	Val Lys Tyr Glu Thr	His Ser Asn Arg Asp	
17900	17905	17910	
tta att gta gcc cgt	aca gac atc act tac	gtg cta aat agt ctc	97474
Leu Ile Val Ala Arg	Thr Asp Ile Thr Tyr	Val Leu Asn Ser Leu	
17915	17920	17925	
gta gtt gta acc aca	aga cta cgt aag tta	gtt att gga ttc agt	97519
Val Val Val Thr Thr	Arg Leu Arg Lys Leu	Val Ile Gly Phe Ser	
17930	17935	17940	
ggt aca ttt caa tcg	ttt gca aag gtt tta	cgt gac gac tcc ttt	97564
Gly Thr Phe Gln Ser	Phe Ala Lys Val Leu	Arg Asp Asp Ser Phe	
17945	17950	17955	
gtg aag gct cga gga	gag aca tcc atc gaa	tat gct tac cgg ttt	97609
Val Lys Ala Arg Gly	Glu Thr Ser Ile Glu	Tyr Ala Tyr Arg Phe	
17960	17965	17970	
ctg tca aac cta atc	ttt gga ggc ttg att	aac ttt tac aat ttt	97654
Leu Ser Asn Leu Ile	Phe Gly Gly Leu Ile	Asn Phe Tyr Asn Phe	
17975	17980	17985	
ttg tta aat aaa aac	cta cat ccc gat aag	gta tcg tta gca tac	97699
Leu Leu Asn Lys Asn	Leu His Pro Asp Lys	Val Ser Leu Ala Tyr	
17990	17995	18000	
aaa cgg tta gct gcc	tta acc ctg gag tta	ttg tct gga aca aac	97744
Lys Arg Leu Ala Ala	Leu Thr Leu Glu Leu	Leu Ser Gly Thr Asn	
18005	18010	18015	
aaa gcc ccc tta cac	gaa gca gcg gtt aat	ggg gcg ggt gcc ggg	97789
Lys Ala Pro Leu His	Glu Ala Ala Val Asn	Gly Ala Gly Ala Gly	
18020	18025	18030	
att gac tgt gat ggt	gca got act tot gcc	gat aaa gcc ttc tgc	97834

Ile Asp Cys Asp Gly	Ala Ala Thr Ser Ala	Asp Lys Ala Phe Cys	
18035	18040	18045	
ttt acc aaa gcc ccc	gag tcc aaa gta acg	gcc tcc ata ccc gaa	97879
Phe Thr Lys Ala Pro	Glu Ser Lys Val Thr	Ala Ser Ile Pro Glu	
18050	18055	18060	
gac ccg gat gat gta	att ttt acg gca ctt	aac gac gag gtt att	97924
Asp Pro Asp Asp Val	Ile Phe Thr Ala Leu	Asn Asp Glu Val Ile	
18065	18070	18075	
gac ttg gta tac tgc	cag tac gaa ttt tcc	tat ccc aaa tca tcc	97969
Asp Leu Val Tyr Cys	Gln Tyr Glu Phe Ser	Tyr Pro Lys Ser Ser	
18080	18085	18090	
aat gag gtc cat gct	cag ttt ctg tta atg	aaa gct att tac gat	98014
Asn Glu Val His Ala	Gln Phe Leu Leu Met	Lys Ala Ile Tyr Asp	
18095	18100	18105	
ggc cga tat gcc ata	tta gca gag ctt ttc	gaa agc agc ttt aca	98059
Gly Arg Tyr Ala Ile	Leu Ala Glu Leu Phe	Glu Ser Ser Phe Thr	
18110	18115	18120	
acc gcc ccc ttt agc	gcg tat gtc gat aat	gtt aat ttc aac gga	98104
Thr Ala Pro Phe Ser	Ala Tyr Val Asp Asn	Val Asn Phe Asn Gly	
18125	18130	18135	
agc gag ctt ttg atc	ggc aat gtg cgg ggg	ggg ctg tta tct ttg	98149
Ser Glu Leu Leu Ile	Gly Asn Val Arg Gly	Gly Leu Leu Ser Leu	
18140	18145	18150	
gca tta caa aca gat	acg tat acc ctt ttg	ggg tat act ttt gca	98194
Ala Leu Gln Thr Asp	Thr Tyr Thr Leu Leu	Gly Tyr Thr Phe Ala	
18155	18160	18165	
ccc gtg cca gtc ttt	gta gag gaa ctg acc	cga aaa aag ctg tac	98239
Pro Val Pro Val Phe	Val Glu Glu Leu Thr	Arg Lys Lys Leu Tyr	
18170	18175	18180	
cgc gaa act acc gaa	atg tta tat gct cta	cac gta cct ctt atg	98284
Arg Glu Thr Thr Glu	Met Leu Tyr Ala Leu	His Val Pro Leu Met	
18185	18190	18195	
gtc tta cag gat caa	cat ggg ttt gtg tcc	atc gta aac gct aac	98329
Val Leu Gln Asp Gln	His Gly Phe Val Ser	Ile Val Asn Ala Asn	
18200	18205	18210	
gta tgt gaa ttt acc	gag tct ata gag gat	gca gaa ttg gca atg	98374
Val Cys Glu Phe Thr	Glu Ser Ile Glu Asp	Ala Glu Leu Ala Met	
18215	18220	18225	
gcc acc acg gtg gac	tat ggc ctt agt tct	aaa cta gcc atg aca	98419
Ala Thr Thr Val Asp	Tyr Gly Leu Ser Ser	Lys Leu Ala Met Thr	
18230	18235	18240	
att gca cgc tca cag	ggc ctg agt tta gag	aag gta gct atc tgt	98464
Ile Ala Arg Ser Gln	Gly Leu Ser Leu Glu	Lys Val Ala Ile Cys	
18245	18250	18255	
ttt acg gcg gat aaa	ctg cgc cta aat agt	gtg tat gtt gcc atg	98509

Phe Thr Ala Asp Lys	Leu Arg Leu Asn Ser	Val Tyr Val Ala Met	
18260	18265	18270	
tcg cgt acg gtc tcc	tct agg ttc tta aaa	atg aat cta aac cct	98554
Ser Arg Thr Val Ser	Ser Arg Phe Leu Lys	Met Asn Leu Asn Pro	
18275	18280	18285	
cta cgg gaa cga tat	gaa aaa tcc gca gaa	att agc gat cac att	98599
Leu Arg Glu Arg Tyr	Glu Lys Ser Ala Glu	Ile Ser Asp His Ile	
18290	18295	18300	
ctt gcc gct cta cgt	gat ccc aac gta cac	gtt gtg tat taa	98641
Leu Ala Ala Leu Arg	Asp Pro Asn Val His	Val Val Tyr	
18305	18310		
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 Ala Tyr Leu Gly Cys Gly Ser Leu Gly Val Pro Arg Thr Tyr Glu
 18755 18760 18765

aga tcc tga cccccatcc ctttatatag aaaaaaaaaa taaattttaa 112147
 Arg Ser
 18770

acatacacccg gataaaaagcg tactgttttt tatttaaatt tacacgctcg gcggttgcccc 112207
 ggttcgggtga tcaccgggto ttatctatat acaccgtgta actcgaaccc ccgtgaactcc 112267
 ctccaatcgc gttaccaaac tcttcttcgc tatccgtaga ttccgagtc tcgaaatcgt 112327
 ccacttatcc aacaaattgt gacgttatat atcccaaggc aaaggccgct ccgctcatag 112387
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 aataacactt ttcagccgaa cggctcggtt gtatggctgt tatcggttgta ttatttggtt 112567
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 tttgtccggc catagaaatc cagattgtaa ggccagcagg ctagttttaa agtgtttaat 112687
 accacacott ttgatattta tatacatgca agattctaga ttattcatca ataggctcgtt 112747
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 acottaacgtt attattaaat aaaacatgta gacattatta ataatoctag gaacaatcaa 112867
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 taatcggatc accttataag tgtgtcgggtg agtatatttt gtacagttgt tggacaacag 112987
 gtttttggtt cattaacact atcaacataa gtcgggggtat acaagtata atg aac gac 113045
 Met Asn Asp

gtt gat gca aca gac acc ttt gtt gga caa gga aag ttc cgt ggc 113090
 Val Asp Ala Thr Asp Thr Phe Val Gly Gln Gly Lys Phe Arg Gly
 18775 18780 18785

gcc atc tca aca tca ccg tca cat att atg caa aca tgt ggg ttt 113135
 Ala Ile Ser Thr Ser Pro Ser His Ile Met Gln Thr Cys Gly Phe
 18790 18795 18800

ata caa cag atg ttt cca gtt gaa atg tcg ccc ggc ata gaa tot 113180
 Ile Gln Gln Met Phe Pro Val Glu Met Ser Pro Gly Ile Glu Ser
 18805 18810 18815

gag gat gat ccc aat tat gac gtt aac atg gat ata cag tot ttt 113225
 Glu Asp Asp Pro Asn Tyr Asp Val Asn Met Asp Ile Gln Ser Phe
 18820 18825 18830

aat ata ttt gat ggt gta cac gaa act gaa gcc gaa gcc tot gtg 113270
 Asn Ile Phe Asp Gly Val His Glu Thr Glu Ala Glu Ala Ser Val
 18835 18840 18845

gca ttg tgc gca gaa gca cgc gtt gga att aat aaa gcg gga ttt 113315
 Ala Leu Cys Ala Glu Ala Arg Val Gly Ile Asn Lys Ala Gly Phe
 18850 18855 18860

gta	ata tta aaa acg ttt	aca cca ggg gcg gaa	ggt ttt gcg ttt	113360
Val	Ile Leu Lys Thr Phe	Thr Pro Gly Ala Glu	Gly Phe Ala Phe	
18865		18870	18875	
gcg	tgt atg gac agt aaa	aca tgt gaa cat gtg	gtc att aaa gcg	113405
Ala	Cys Met Asp Ser Lys	Thr Cys Glu His Val	Val Ile Lys Ala	
18880		18885	18890	
ggt	caa cgt caa gga acg	gcc acc gag gca acc	gtg tta aga gcg	113450
Gly	Gln Arg Gln Gly Thr	Ala Thr Glu Ala Thr	Val Leu Arg Ala	
18895		18900	18905	
tta	acc cac cca tcc gtt	gta cag ctt aaa gga	acg ttt acg tat	113495
Leu	Thr His Pro Ser Val	Val Gln Leu Lys Gly	Thr Phe Thr Tyr	
18910		18915	18920	
aac	aaa atg aca tgt ctt	ata tta cca cgt tac	cga aca gat tta	113540
Asn	Lys Met Thr Cys Leu	Ile Leu Pro Arg Tyr	Arg Thr Asp Leu	
18925		18930	18935	
tac	tgc tat cta gct gca	aag cgc aac ctc ccc	ata tgt gac att	113585
Tyr	Cys Tyr Leu Ala Ala	Lys Arg Asn Leu Pro	Ile Cys Asp Ile	
18940		18945	18950	
tta	gca att cag cga tct	gta tta cgc gcg tta	cag tat ctt cat	113630
Leu	Ala Ile Gln Arg Ser	Val Leu Arg Ala Leu	Gln Tyr Leu His	
18955		18960	18965	
aat	aac agt att att cac	cgt gat ata aaa tct	gaa aat ata ttt	113675
Asn	Asn Ser Ile Ile His	Arg Asp Ile Lys Ser	Glu Asn Ile Phe	
18970		18975	18980	
att	aac cac cca ggt gat	gtt tgt gtg gga gac	ttt gga gca gcg	113720
Ile	Asn His Pro Gly Asp	Val Cys Val Gly Asp	Phe Gly Ala Ala	
18985		18990	18995	
tgt	ttc ccc gtg gat att	aat gcc aac agg tat	tat ggc tgg gct	113765
Cys	Phe Pro Val Asp Ile	Asn Ala Asn Arg Tyr	Tyr Gly Trp Ala	
19000		19005	19010	
gga	aca atc gcc aca aac	tct cct gag tta ttg	gct aga gat cca	113810
Gly	Thr Ile Ala Thr Asn	Ser Pro Glu Leu Leu	Ala Arg Asp Pro	
19015		19020	19025	
tat	gga cct gcc gtg gac	ata tgg agt gcc ggg	att gta tta ttt	113855
Tyr	Gly Pro Ala Val Asp	Ile Trp Ser Ala Gly	Ile Val Leu Phe	
19030		19035	19040	
gaa	atg got aca gga cag	aac tcg tta ttt gaa	cga gac ggt tta	113900
Glu	Met Ala Thr Gly Gln	Asn Ser Leu Phe Glu	Arg Asp Gly Leu	
19045		19050	19055	
gat	ggc aat tgt gac agt	gag cgt caa att aaa	ctt att ata cga	113945
Asp	Gly Asn Cys Asp Ser	Glu Arg Gln Ile Lys	Leu Ile Ile Arg	
19060		19065	19070	
cga	tct gga act cat ccc	aat gaa ttt ccc att	aac cct acg tca	113990
Arg	Ser Gly Thr His Pro	Asn Glu Phe Pro Ile	Asn Pro Thr Ser	
19075		19080	19085	

aat	ott	cgt	cga	caa	tac	att	ggt	ttg	gca	aaa	cgg	tot	tct	cga	114035
Asn	Leu	Arg	Arg	Gln	Tyr	Ile	Gly	Leu	Ala	Lys	Arg	Ser	Ser	Arg	
19090					19095					19100					
aaa	ccc	gga	tcc	agg	cca	ttg	tgg	aca	aat	cta	tat	gag	ttg	cca	114080
Lys	Pro	Gly	Ser	Arg	Pro	Leu	Trp	Thr	Asn	Leu	Tyr	Glu	Leu	Pro	
19105					19110					19115					
att	gat	ttg	gag	tat	ttg	ata	tgt	aag	atg	tta	tcg	ttt	gac	gca	114125
Ile	Asp	Leu	Glu	Tyr	Leu	Ile	Cys	Lys	Met	Leu	Ser	Phe	Asp	Ala	
19120					19125					19130					
cgt	cat	cga	cca	tca	gca	gag	gtg	ttg	ott	aac	cac	tot	gtt	tto	114170
Arg	His	Arg	Pro	Ser	Ala	Glu	Val	Leu	Leu	Asn	His	Ser	Val	Phe	
19135					19140					19145					
caa	act	ott	ccc	gat	cca	tat	cca	aat	cca	atg	gaa	gtt	gga	gat	114215
Gln	Thr	Leu	Pro	Asp	Pro	Tyr	Pro	Asn	Pro	Met	Glu	Val	Gly	Asp	
19150					19155					19160					
taa aattcattaa gcoctgttaaat aaaatattgt ataaattgtg tttataacgt															114268
ataaccogtt aaggcaaata gggtacaaac ggcgaatgtt ttgaaatact aatataaata															114328
acataaccaa tagaaactta atacagagtc acgccccatt acaacaagga taaaacacgg															114388
gatcattttc ttaacattgt agtagogctg aaaagcgtcc cctccccogg ctcacagagc															114448
tgctottcgg tctagtgtgg tatactgggt cgcoctcattt aatcgcg atg															114504
											Met	Phe	Leu		
											19165				
atc	caa	tgt	ttg	ata	tgc	gcc	gtt	ata	ttt	tac	ata	caa	gtg	acc	114549
Ile	Gln	Cys	Leu	Ile	Ser	Ala	Val	Ile	Phe	Tyr	Ile	Gln	Val	Thr	
	19170					19175						19180			
aac	got	ttg	atc	tto	aag	ggc	gac	cac	gtg	agc	ttg	caa	gtt	aac	114594
Asn	Ala	Leu	Ile	Phe	Lys	Gly	Asp	His	Val	Ser	Leu	Gln	Val	Asn	
	19185					19190						19195			
agc	agt	ctc	acg	tot	atc	ott	att	ccc	atg	caa	aat	gat	aat	tat	114639
Ser	Ser	Leu	Thr	Ser	Ile	Leu	Ile	Pro	Met	Gln	Asn	Asp	Asn	Tyr	
	19200					19205						19210			
aca	gag	ata	aaa	gga	cag	ott	gtc	ttt	att	gga	gag	caa	cta	cct	114684
Thr	Glu	Ile	Lys	Gly	Gln	Leu	Val	Phe	Ile	Gly	Glu	Gln	Leu	Pro	
	19215					19220						19225			
acc	ggg	aca	aac	tat	agc	gga	aca	ctg	gaa	ctg	tta	tac	gcg	gat	114729
Thr	Gly	Thr	Asn	Tyr	Ser	Gly	Thr	Leu	Glu	Leu	Leu	Tyr	Ala	Asp	
	19230					19235						19240			
acg	gtg	gcg	ttt	tgt	tto	cgg	tca	gta	caa	gta	ata	aga	tac	gac	114774
Thr	Val	Ala	Phe	Cys	Phe	Arg	Ser	Val	Gln	Val	Ile	Arg	Tyr	Asp	
	19245					19250						19255			
gga	tgt	ccc	cgg	att	aga	acg	agc	gct	ttt	att	tgc	tgt	agg	tac	114819
Gly	Cys	Pro	Arg	Ile	Arg	Thr	Ser	Ala	Phe	Ile	Ser	Cys	Arg	Tyr	
	19260					19265						19270			

aaa cat tcg	tgg cat tat ggt aac	tca acg gat cgg ata	tca aca	114864
Lys His Ser	Trp His Tyr Gly Asn	Ser Thr Asp Arg Ile	Ser Thr	
19275	19280	19285		
gag ccg gat	gct ggt gta atg ttg	aaa att acc aaa ccg	gga ata	114909
Glu Pro Asp	Ala Gly Val Met Leu	Lys Ile Thr Lys Pro	Gly Ile	
19290	19295	19300		
aat gat gct	ggt gtg tat gta ctt	ctt gtt cgg tta gac	cat agc	114954
Asn Asp Ala	Gly Val Tyr Val Leu	Leu Val Arg Leu Asp	His Ser	
19305	19310	19315		
aga tcc acc	gat ggt ttc att ctt	ggt gta aat gta tat	aca gcg	114999
Arg Ser Thr	Asp Gly Phe Ile Leu	Gly Val Asn Val Tyr	Thr Ala	
19320	19325	19330		
ggc tcg cat	cac aac att cac ggg	gtt atc tac act tct	ccg tct	115044
Gly Ser His	His Asn Ile His Gly	Val Ile Tyr Thr Ser	Pro Ser	
19335	19340	19345		
cta cag aat	gga tat tct aca aga	gcc ctt ttt caa caa	gct cgt	115089
Leu Gln Asn	Gly Tyr Ser Thr Arg	Ala Leu Phe Gln Gln	Ala Arg	
19350	19355	19360		
ttg tgt gat	tta ccc gcg aca ccc	aaa ggg tcc ggt acc	tcc ctg	115134
Leu Cys Asp	Leu Pro Ala Thr Pro	Lys Gly Ser Gly Thr	Ser Leu	
19365	19370	19375		
ttt caa cat	atg ctt gat ctt cgt	gcc ggt aaa tcg tta	gag gat	115179
Phe Gln His	Met Leu Asp Leu Arg	Ala Gly Lys Ser Leu	Glu Asp	
19380	19385	19390		
aac cct tgg	tta cat gag gac gtt	gtt acg aca gaa act	aag tcc	115224
Asn Pro Trp	Leu His Glu Asp Val	Val Thr Thr Glu Thr	Lys Ser	
19395	19400	19405		
gtt gtt aag	gag ggg ata gaa aat	cac gta tat cca acg	gat atg	115269
Val Val Lys	Glu Gly Ile Glu Asn	His Val Tyr Pro Thr	Asp Met	
19410	19415	19420		
tcc acg tta	ccc gaa aag tcc ctt	aat gat cct cca gaa	aat cta	115314
Ser Thr Leu	Pro Glu Lys Ser Leu	Asn Asp Pro Pro Glu	Asn Leu	
19425	19430	19435		
ctt ata att	att cct ata gta gcg	tct gtc atg atc ctc	acc gcc	115359
Leu Ile Ile	Ile Pro Ile Val Ala	Ser Val Met Ile Leu	Thr Ala	
19440	19445	19450		
atg gtt att	gtt att gta ata agc	gtt aag cga cgt aga	att aaa	115404
Met Val Ile	Val Ile Val Ile Ser	Val Lys Arg Arg Arg	Ile Lys	
19455	19460	19465		
aaa cat cca	att tat cgc cca aat	aca aaa aca aga agg	ggc ata	115449
Lys His Pro	Ile Tyr Arg Pro Asn	Thr Lys Thr Arg Arg	Gly Ile	
19470	19475	19480		
caa aat gcg	aca cca gaa tcc gat	gtg atg ttg gag gcc	gcc att	115494
Gln Asn Ala	Thr Pro Glu Ser Asp	Val Met Leu Glu Ala	Ala Ile	
19485	19490	19495		

gca caa cta	gca acg att cgc gaa	gaa tcc ccc cca cat	tcc gtt	115539
Ala Gln Leu	Ala Thr Ile Arg Glu	Glu Ser Pro Pro His	Ser Val	
19500	19505	19510		

gta aac ccg	ttt gtt aaa tag aactaattat	cccggtttt	atattaaata	115590
Val Asn Pro	Phe Val Lys			
19515				

aactatatgc	gttttattta	gcgttttgat	tacgcgttgt	gatatgaggg	gaaggattaa	115650
gaatctccta	actataagtt	aacacgcccc	catttgggcg	gggatgtttt	atgaagcctt	115710
aaagggcgag	ctggtataca	cgagagcagt	ccatggtttt	agacctggg	ogaattgcgt	115770
ggttttaagt	gactatattc	cgagggctgc	ctgtaat	atg ggg	aca gtt aat	115822
				Met Gly	Thr Val Asn	
				19520		

aaa cct	gtg gtg ggg gta ttg	atg ggg ttc gga att	atc acg gga	115867
Lys Pro	Val Val Gly Val Leu	Met Gly Phe Gly Ile	Ile Thr Gly	
19525	19530	19535		

acg ttg	cgt ata acg aat ccg	gtc aga gca tcc gtc	ttg cga tac	115912
Thr Leu	Arg Ile Thr Asn Pro	Val Arg Ala Ser Val	Leu Arg Tyr	
19540	19545	19550		

gat gat	ttt cac acc gat gaa	gac aaa ctg gat aca	aac tcc gta	115957
Asp Asp	Phe His Thr Asp Glu	Asp Lys Leu Asp Thr	Asn Ser Val	
19555	19560	19565		

tat gag	cct tac tac cat tca	gat cat gcg gag tct	tca tgg gta	116002
Tyr Glu	Pro Tyr Tyr His Ser	Asp His Ala Glu Ser	Ser Trp Val	
19570	19575	19580		

aat cgg	gga gag tct tog cga	aaa gcg tac gat cat	aac tca cct	116047
Asn Arg	Gly Glu Ser Ser Arg	Lys Ala Tyr Asp His	Asn Ser Pro	
19585	19590	19595		

tat ata	tgg cca cgt aat gat	tat gat gga ttt tta	gag aac gca	116092
Tyr Ile	Trp Pro Arg Asn Asp	Tyr Asp Gly Phe Leu	Glu Asn Ala	
19600	19605	19610		

cac gaa	cac cat ggg gtg tat	aat cag ggc cgt ggt	atc gat agc	116137
His Glu	His His Gly Val Tyr	Asn Gln Gly Arg Gly	Ile Asp Ser	
19615	19620	19625		

ggg gaa	cgg tta atg caa ccc	aca caa atg tct gca	cag gag gat	116182
Gly Glu	Arg Leu Met Gln Pro	Thr Gln Met Ser Ala	Gln Glu Asp	
19630	19635	19640		

ctt ggg	gac gat acg ggc atc	cac gtt atc cct acg	tta aac ggc	116227
Leu Gly	Asp Asp Thr Gly Ile	His Val Ile Pro Thr	Leu Asn Gly	
19645	19650	19655		

gat gac	aga cat aaa att gta	aat gtg gac caa cgt	caa tac ggt	116272
Asp Asp	Arg His Lys Ile Val	Asn Val Asp Gln Arg	Gln Tyr Gly	
19660	19665	19670		

gac gtg	ttt aaa gga gat ctt	aat cca aaa ccc caa	ggc caa aga	116317
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Asp Val	Phe Lys Gly Asp Leu	Asn Pro Lys Pro Gln	Gly Gln Arg
19675	19680	19685	
ctc att	gag gtg tca gtg gaa	gaa aat cac ccg ttt	act tta cgc 116362
Leu Ile	Glu Val Ser Val Glu	Glu Asn His Pro Phe	Thr Leu Arg
19690	19695	19700	
gca ccg	att cag cgg att tat	gga gtc cgg tac acc	gag act tgg 116407
Ala Pro	Ile Gln Arg Ile Tyr	Gly Val Arg Tyr Thr	Glu Thr Trp
19705	19710	19715	
agc ttt	ttg ccg tca tta acc	tgt acg gga gac gca	gcg ccc gcc 116452
Ser Phe	Leu Pro Ser Leu Thr	Cys Thr Gly Asp Ala	Ala Pro Ala
19720	19725	19730	
atc cag	cat ata tgt tta aaa	cat aca aca tgc ttt	caa gac gtg 116497
Ile Gln	His Ile Cys Leu Lys	His Thr Thr Cys Phe	Gln Asp Val
19735	19740	19745	
gtg gtg	gat gtg gat tgc gcg	gaa aat act aaa gag	gat cag ttg 116542
Val Val	Asp Val Asp Cys Ala	Glu Asn Thr Lys Glu	Asp Gln Leu
19750	19755	19760	
gcc gaa	atc agt tac cgt ttt	caa ggt aag aag gaa	gcg gac caa 116587
Ala Glu	Ile Ser Tyr Arg Phe	Gln Gly Lys Lys Glu	Ala Asp Gln
19765	19770	19775	
ccg tgg	att gtt gta aac acg	agc aca ctg ttt gat	gaa ctc gaa 116632
Pro Trp	Ile Val Val Asn Thr	Ser Thr Leu Phe Asp	Glu Leu Glu
19780	19785	19790	
tta gac	ccc ccc gag att gaa	ccg ggt gtc ttg aaa	gta ctt cgg 116677
Leu Asp	Pro Pro Glu Ile Glu	Pro Gly Val Leu Lys	Val Leu Arg
19795	19800	19805	
aca gaa	aaa caa tac ttg ggt	gtg tac att tgg aac	atg cgc ggc 116722
Thr Glu	Lys Gln Tyr Leu Gly	Val Tyr Ile Trp Asn	Met Arg Gly
19810	19815	19820	
tcc gat	ggg acg tct acc tac	gcc acg ttt ttg gtc	acc tgg aaa 116767
Ser Asp	Gly Thr Ser Thr Tyr	Ala Thr Phe Leu Val	Thr Trp Lys
19825	19830	19835	
ggg gat	gaa aaa aca aga aac	cct acg ccc gca gta	act cct caa 116812
Gly Asp	Glu Lys Thr Arg Asn	Pro Thr Pro Ala Val	Thr Pro Gln
19840	19845	19850	
cca aga	ggg gct gag ttt cat	atg tgg aat tac cac	tcg cat gta 116857
Pro Arg	Gly Ala Glu Phe His	Met Trp Asn Tyr His	Ser His Val
19855	19860	19865	
ttt tca	gtt ggt gat acg ttt	agc ttg gca atg cat	ctt cag tat 116902
Phe Ser	Val Gly Asp Thr Phe	Ser Leu Ala Met His	Leu Gln Tyr
19870	19875	19880	
aag ata	cat gaa gcg cca ttt	gat ttg ctg tta gag	tgg ttg tat 116947
Lys Ile	His Glu Ala Pro Phe	Asp Leu Leu Leu Glu	Trp Leu Tyr
19885	19890	19895	
gtc ccc	atc gat cct aca tgt	caa cca atg cgg tta	tat tct acg 116992

Val	Pro	Ile	Asp	Pro	Thr	Cys	Gln	Pro	Met	Arg	Leu	Tyr	Ser	Thr	
	19900					19905					19910				
tgt	ttg	tat	cat	ccc	aac	gca	ccc	caa	tgc	ctc	tct	cat	atg	aat	117037
Cys	Leu	Tyr	His	Pro	Asn	Ala	Pro	Gln	Cys	Leu	Ser	His	Met	Asn	
	19915					19920					19925				
tcc	ggg	tgt	aca	ttt	acc	tgc	cca	cat	tta	gcc	cag	cgt	gtt	gca	117082
Ser	Gly	Cys	Thr	Phe	Thr	Ser	Pro	His	Leu	Ala	Gln	Arg	Val	Ala	
	19930					19935					19940				
agc	aca	gtg	tat	caa	aat	tgt	gaa	cat	gca	gat	aac	tac	acc	gca	117127
Ser	Thr	Val	Tyr	Gln	Asn	Cys	Glu	His	Ala	Asp	Asn	Tyr	Thr	Ala	
	19945					19950					19955				
tat	tgt	ctg	gga	ata	tct	cat	atg	gag	cct	agc	ttt	ggg	cta	atc	117172
Tyr	Cys	Leu	Gly	Ile	Ser	His	Met	Glu	Pro	Ser	Phe	Gly	Leu	Ile	
	19960					19965					19970				
tta	cac	gac	ggg	ggc	acc	acg	tta	aag	ttt	gta	gat	aca	ccc	gag	117217
Leu	His	Asp	Gly	Gly	Thr	Thr	Leu	Lys	Phe	Val	Asp	Thr	Pro	Glu	
	19975					19980					19985				
agt	ttg	tgc	gga	tta	tac	gtt	ttt	gtg	gtg	tat	ttt	aac	ggg	cat	117262
Ser	Leu	Ser	Gly	Leu	Tyr	Val	Phe	Val	Val	Tyr	Phe	Asn	Gly	His	
	19990					19995					20000				
gtt	gaa	gcc	gta	gca	tac	act	gtt	gta	tcc	aca	gta	gat	cat	ttt	117307
Val	Glu	Ala	Val	Ala	Tyr	Thr	Val	Val	Ser	Thr	Val	Asp	His	Phe	
	20005					20010					20015				
gta	aac	gca	att	gaa	gag	cgt	gga	ttt	ccg	cca	acg	gcc	ggg	cag	117352
Val	Asn	Ala	Ile	Glu	Glu	Arg	Gly	Phe	Pro	Pro	Thr	Ala	Gly	Gln	
	20020					20025					20030				
cca	ccg	gcg	act	act	aaa	ccc	aag	gaa	att	acc	ccc	gta	aac	ccc	117397
Pro	Pro	Ala	Thr	Thr	Lys	Pro	Lys	Glu	Ile	Thr	Pro	Val	Asn	Pro	
	20035					20040					20045				
gga	acg	tca	cca	ctt	cta	cga	tat	gcc	gca	tgg	acc	gga	ggg	ctt	117442
Gly	Thr	Ser	Pro	Leu	Leu	Arg	Tyr	Ala	Ala	Trp	Thr	Gly	Gly	Leu	
	20050					20055					20060				
gca	gca	gta	gta	ctt	tta	tgt	ctc	gta	ata	ttt	tta	atc	tgt	acg	117487
Ala	Ala	Val	Val	Leu	Leu	Cys	Leu	Val	Ile	Phe	Leu	Ile	Cys	Thr	
	20065					20070					20075				
gct	aaa	cga	atg	agg	gtt	aaa	gcc	tat	agg	gta	gac	aag	tcc	ccg	117532
Ala	Lys	Arg	Met	Arg	Val	Lys	Ala	Tyr	Arg	Val	Asp	Lys	Ser	Pro	
	20080					20085					20090				
tat	aac	caa	agc	atg	tat	tac	gct	ggc	ctt	cca	gtg	gac	gat	ttc	117577
Tyr	Asn	Gln	Ser	Met	Tyr	Tyr	Ala	Gly	Leu	Pro	Val	Asp	Asp	Phe	
	20095					20100					20105				
gag	gac	tgc	gaa	tct	acg	gat	acg	gaa	gaa	gag	ttt	ggg	aac	gcg	117622
Glu	Asp	Ser	Glu	Ser	Thr	Asp	Thr	Glu	Glu	Glu	Phe	Gly	Asn	Ala	
	20110					20115					20120				
att	gga	ggg	agt	cac	ggg	ggg	tgc	agt	tac	acg	gtg	tat	ata	gat	117667

Ile Gly	Gly Ser His Gly Gly	Ser Ser Tyr Thr Val	Tyr Ile Asp
20125	20130	20135	

aag acc	cyg tga tcacogaacc	ggggcaacgc	cgagcgtgta	aatttaaata	117719
Lys Thr	Arg				
20140					

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 Met Asp Thr

ccg ccg atg cag cgc tct aca ccc caa cgc gcg ggg tgc cct gat 120817
 Pro Pro Met Gln Arg Ser Thr Pro Gln Arg Ala Gly Ser Pro Asp
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 Thr Leu Glu Leu Met Asp Leu Leu Asp Ala Ala Ala Ala Ala Ala
 20160 20165 20170

gaa cac agg gcc cgg gtg gtc acc tgc agt cag cct gac gat cta 120907

Glu 20175	His	Arg	Ala	Arg	Val 20180	Val	Thr	Ser	Ser	Gln 20185	Pro	Asp	Asp	Leu	
cta Leu 20190	ttt Phe	gga Gly	gag Glu	aac Asn	ggg Gly 20195	gtc Val	atg Met	gtg Val	gga Gly	cgg Arg 20200	gaa Glu	cac His	gag Glu	atc Ile	120952
gtt Val 20205	tca Ser	att Ile	ccc Pro	tcc Ser	gta Val 20210	tcg Ser	gga Gly	ctt Leu	caa Gln	cca Pro 20215	gaa Glu	ccc Pro	aga Arg	acg Thr	120997
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gac Asp 20430	ctg	ccg	ttt	gag	acc Thr 20435	gat	gat	acc	cgc	cca Pro 20440	agg	aaa	cat	gat 121672 Arg Lys His Asp
gcc Ala 20445	cgg	ggc	ata	aca	cct Pro 20450	cgc	gtc	cct	gga	cgt Arg 20455	tgc	tgc	ggg	ggc 121717 Ser Ser Gly Gly
aaa Lys 20460	cct	aga	gcg	ttt	ttg Leu 20465	gcc	ctg	ccg	gga	aga Arg 20470	tcc	cac	gca	cca 121762 Ser His Ala Pro
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cgt Arg 20490	gag	ttt	gtt	tgc	tct Ser 20495	tca	tcc	tct	tcc	tgc Ser 20500	tgc	tgg	gga	tgc 121852 Ser Trp Gly Ser
tca Ser 20505	tgc	gag	gat	gaa	gac Asp 20510	gat	gaa	ccc	cgc	cgc Arg 20515	gtt	tgc	gtg	gga 121897 Val Ser Val Gly
agt Ser 20520	gaa	act	aca	ggc	agc Ser 20525	agg	tcc	gga	cgc	gaa Glu 20530	cac	gcc	cct	tcc 121942 His Ala Pro Ser
ccg Pro 20535	tca	aat	tgc	gat	gat Asp 20540	tgc	gac	tca	aat	gat Asp 20545	ggt	ggg	tgc	acg 121987 Gly Gly Ser Thr
aaa Lys 20550	caa	aat	atc	caa	ccg Pro 20555	gga	tat	cga	tcc	atc Ile 20560	agc	ggt	ccc	gat 122032 Ser Gly Pro Asp
ccg Pro 20565	agg	att	cgt	aag	acc Thr 20570	aaa	cgt	ctt	gcg	ggg Gly 20575	gaa	ccg	ggg	cgc 122077 Glu Pro Gly Arg
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Pro 20625	Ser	Gly	Glu	Thr	Arg 20630	Glu	Gly	His	Trp	Glu 20635	Asp	Glu	Ala	Val	
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	Leu	Asp	Lys	Ile	Arg	Glu	Thr	Pro	Val	Ala	Asp	Ala	Arg	Val	
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Ala 20850	Asp	Asp	His	Val	Val 20855	Ser	Lys	Ala	Lys	Arg 20860	Arg	Val	Ser	Glu
ccc Pro 20865	gtg Val	acc Thr	atc Ile	acc Thr	tgc Ser 20870	ggc Gly	cct Pro	gtg Val	gtg Val	gat Asp 20875	ccc Pro	ccc Pro	gcc Ala	gta Val 122977
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Leu 21075	Gly	Ser	Arg	Leu	Ala 21080	Ser	Ala	Arg	Arg	Arg 21085	Leu	Leu	Val	Leu	
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	Ala	Arg	Ile	Glu		Ala	Phe	Ala	Asn		Tyr	Pro	Gly	Glu	
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[illegible]

Ile Met Gly Ser Thr Leu Val Arg Pro Ser Leu Asn Ala Thr Ala Glu
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Glu Asn Pro Ala Ser Glu Thr Arg Cys Leu Leu Arg Val Leu Ala Gly
35 40 45

Arg Thr Val Asp Leu Pro Gly Gly Gly Thr Leu His Ile Thr Cys Thr
50 55 60

Lys Thr Tyr Val Ile Ile Gly Lys Tyr Ser Lys Pro Gly Glu Arg Leu
65 70 75 80

Ser Leu Ala Arg Leu Ile Gly Arg Ala Met Thr Pro Gly Gly Ala Arg
85 90 95

Thr Phe Ile Ile Leu Ala Met Lys Glu Lys Arg Ser Thr Thr Leu Gly
100 105 110

Tyr Glu Cys Gly Thr Gly Leu His Leu Leu Ala Pro Ser Met Gly Thr
115 120 125

Phe Leu Arg Thr His Gly Leu Ser Asn Arg Asp Leu Cys Leu Trp Arg
130 135 140

Gly Asn Ile Tyr Asp Met His Met Gln Arg Leu Met Phe Trp Glu Asn
145 150 155 160

Ile Ala Gln Asn Thr Thr Glu Thr Pro Cys Ile Thr Ser Thr Leu Thr
165 170 175

Cys Asn Leu Thr Glu Asp Ser Gly Glu Ala Ala Leu Thr Thr Ser Asp
180 185 190

Arg Pro Thr Leu Pro Thr Leu Thr Ala Gln Gly Arg Pro Thr Val Ser
195 200 205

Asn Ile Arg Gly Ile Leu Lys Gly Ser Pro Arg Gln Gln Pro Val Cys
210 215 220

His Arg Val Arg Phe Ala Glu Pro Thr Glu Gly Val Leu Met
225 230 235

<210> 10
<211> 259
<212> PRT

<213> Varicella zoster

<400> 10

Met Gln Thr Val Cys Ala Ser Leu Cys Gly Tyr Ala Arg Ile Pro Thr
1 5 10 15

Glu Glu Pro Ser Tyr Glu Glu Val Arg Val Asn Thr His Pro Gln Gly
20 25 30

Ala Ala Leu Leu Arg Leu Gln Glu Ala Leu Thr Ala Val Asn Gly Leu
35 40 45

Leu Pro Ala Pro Leu Thr Leu Glu Asp Val Val Ala Ser Ala Asp Asn
50 55 60

Thr Arg Arg Leu Val Arg Ala Gln Ala Leu Ala Arg Thr Tyr Ala Ala
65 70 75 80

Cys Ser Arg Asn Ile Glu Cys Leu Lys Gln His His Phe Thr Glu Asp
85 90 95

Asn Pro Gly Leu Asn Ala Val Val Arg Ser His Met Glu Asn Ser Lys
100 105 110

Arg Leu Ala Asp Met Cys Leu Ala Ala Ile Thr His Leu Tyr Leu Ser
115 120 125

Val Gly Ala Val Asp Val Thr Thr Asp Asp Ile Val Asp Gln Thr Leu
130 135 140

Arg Met Thr Ala Glu Ser Glu Val Val Met Ser Asp Val Val Leu Leu
145 150 155 160

Glu Lys Thr Leu Gly Val Val Ala Lys Pro Gln Ala Ser Phe Asp Val
165 170 175

Ser His Asn His Glu Leu Ser Ile Ala Lys Gly Glu Asn Val Gly Leu
180 185 190

Lys Thr Ser Pro Ile Lys Ser Glu Ala Thr Gln Leu Ser Glu Ile Lys
195 200 205

Pro Pro Leu Ile Glu Val Ser Asp Asn Asn Thr Ser Asn Leu Thr Lys
210 215 220

Lys Thr Tyr Pro Thr Glu Thr Leu Gln Pro Val Leu Thr Pro Lys Gln
225 230 235 240

Thr Gln Asp Val Gln Arg Thr Thr Pro Ala Ile Lys Lys Ser His Val
245 250 255

Met Leu Val

<210> 11
<211> 87
<212> PRT
<213> Varicella zoster

<400> 11

Met Gly Ser Ile Thr Ala Ser Phe Ile Leu Ile Thr Met Gln Ile Leu
1 5 10 15

Phe Phe Cys Glu Asp Ser Ser Gly Glu Pro Asn Phe Ala Glu Arg Asn
20 25 30

Phe Trp His Ala Ser Cys Ser Ala Arg Gly Val Tyr Ile Asp Gly Ser
35 40 45

Met Ile Thr Thr Leu Phe Phe Tyr Ala Ser Leu Leu Gly Val Cys Val
50 55 60

Ala Leu Ile Ser Leu Ala Tyr His Ala Cys Phe Arg Leu Phe Thr Arg
65 70 75 80

Ser Val Leu Arg Ser Thr Trp
85

<210> 12
<211> 302
<212> PRT
<213> Varicella zoster

<400> 12

Met Ala Ser Ser Asp Gly Asp Arg Leu Cys Arg Ser Asn Ala Val Arg
1 5 10 15

Arg Lys Thr Thr Pro Ser Tyr Ser Gly Gln Tyr Arg Thr Ala Arg Arg
20 25 30

Ser Val Val Val Gly Pro Pro Asp Asp Ser Asp Asp Ser Leu Gly Tyr
35 40 45

Ile	Thr	Thr	Val	Gly	Ala	Asp	Ser	Pro	Ser	Pro	Val	Tyr	Ala	Asp	Leu
50						55					60				
Tyr	Phe	Glu	His	Lys	Asn	Thr	Thr	Pro	Arg	Val	His	Gln	Pro	Asn	Asp
65					70					75					80
Ser	Ser	Gly	Ser	Glu	Asp	Asp	Phe	Glu	Asp	Ile	Asp	Glu	Val	Val	Ala
				85					90					95	
Ala	Phe	Arg	Glu	Ala	Arg	Leu	Arg	His	Glu	Leu	Val	Glu	Asp	Ala	Val
			100					105					110		
Tyr	Glu	Asn	Pro	Leu	Ser	Val	Glu	Lys	Pro	Ser	Arg	Ser	Phe	Thr	Lys
		115					120					125			
Asn	Ala	Ala	Val	Lys	Pro	Lys	Leu	Glu	Asp	Ser	Pro	Lys	Arg	Ala	Pro
	130					135					140				
Pro	Gly	Ala	Gly	Ala	Ile	Ala	Ser	Gly	Arg	Pro	Ile	Ser	Phe	Ser	Thr
145					150					155					160
Ala	Pro	Lys	Thr	Ala	Thr	Ser	Ser	Trp	Cys	Gly	Pro	Thr	Pro	Ser	Tyr
				165					170					175	
Asn	Lys	Arg	Val	Phe	Cys	Glu	Ala	Val	Arg	Arg	Val	Ala	Ala	Met	Gln
			180					185						190	
Ala	Gln	Lys	Ala	Ala	Glu	Ala	Ala	Trp	Asn	Ser	Asn	Pro	Pro	Arg	Asn
		195					200					205			
Asn	Ala	Glu	Leu	Asp	Arg	Leu	Leu	Thr	Gly	Ala	Val	Ile	Arg	Ile	Thr
	210					215					220				
Val	His	Glu	Gly	Leu	Asn	Leu	Ile	Gln	Ala	Ala	Asn	Glu	Ala	Asp	Leu
225					230					235					240
Gly	Glu	Gly	Ala	Ser	Val	Ser	Lys	Arg	Gly	His	Asn	Arg	Lys	Thr	Gly
				245					250					255	
Asp	Leu	Gln	Gly	Gly	Met	Gly	Asn	Glu	Pro	Met	Tyr	Ala	Gln	Val	Arg
			260					265					270		
Lys	Pro	Lys	Ser	Arg	Thr	Asp	Thr	Gln	Thr	Thr	Gly	Arg	Ile	Thr	Asn
		275					280					285			

Arg Ser Arg Ala Arg Ser Ala Ser Arg Thr Asp Thr Arg Lys
 290 295 300

<210> 13
 <211> 410
 <212> PRT
 <213> Varicella zoster

<400> 13

Met Glu Cys Asn Leu Gly Thr Glu His Pro Ser Thr Asp Thr Trp Asn
 1 5 10 15

Arg Ser Lys Thr Glu Gln Ala Val Val Asp Ala Phe Asp Glu Ser Leu
 20 25 30

Phe Gly Asp Val Ala Ser Asp Ile Gly Phe Glu Thr Ser Leu Tyr Ser
 35 40 45

His Ala Val Lys Thr Ala Pro Ser Pro Pro Trp Val Ala Ser Pro Lys
 50 55 60

Ile Leu Tyr Gln Gln Leu Ile Arg Asp Leu Asp Phe Ser Glu Gly Pro
 65 70 75 80

Arg Leu Leu Ser Cys Leu Glu Thr Trp Asn Glu Asp Leu Phe Ser Cys
 85 90 95

Phe Pro Ile Asn Glu Asp Leu Tyr Ser Asp Met Met Val Leu Ser Pro
 100 105 110

Asp Pro Asp Asp Val Ile Ser Thr Val Ser Thr Lys Asp His Val Glu
 115 120 125

Met Phe Asn Leu Thr Thr Arg Gly Ser Val Arg Leu Pro Ser Pro Pro
 130 135 140

Lys Gln Pro Thr Gly Leu Pro Ala Tyr Val Gln Glu Val Gln Asp Ser
 145 150 155 160

Phe Thr Val Glu Leu Arg Ala Arg Glu Glu Ala Tyr Thr Lys Leu Leu
 165 170 175

Val Thr Tyr Cys Lys Ser Ile Ile Arg Tyr Leu Gln Gly Thr Ala Lys
 180 185 190

Arg Thr Thr Ile Gly Leu Asn Ile Gln Asn Pro Asp Gln Lys Ala Tyr
195 200 205

Thr Gln Leu Arg Gln Ser Ile Leu Leu Arg Tyr Tyr Arg Glu Val Ala
210 215 220

Ser Leu Ala Arg Leu Leu Tyr Leu His Leu Tyr Leu Thr Val Thr Arg
225 230 235 240

Glu Phe Ser Trp Arg Leu Tyr Ala Ser Gln Ser Ala His Pro Asp Val
245 250 255

Phe Ala Ala Leu Lys Phe Thr Trp Thr Glu Arg Arg Gln Phe Thr Cys
260 265 270

Ala Phe His Pro Val Leu Cys Asn His Gly Ile Val Leu Leu Glu Gly
275 280 285

Lys Pro Leu Thr Ala Ser Ala Leu Arg Glu Ile Asn Tyr Arg Arg Arg
290 295 300

Glu Leu Gly Leu Pro Leu Val Arg Cys Gly Leu Val Glu Glu Asn Lys
305 310 315 320

Ser Pro Leu Val Gln Gln Pro Ser Phe Ser Val His Leu Pro Arg Ser
325 330 335

Val Gly Phe Leu Thr His His Ile Lys Arg Lys Leu Asp Ala Tyr Ala
340 345 350

Val Lys His Pro Gln Glu Pro Arg His Val Arg Ala Asp His Pro Tyr
355 360 365

Ala Lys Val Val Glu Asn Arg Asn Tyr Gly Ser Ser Ile Glu Ala Met
370 375 380

Ile Leu Ala Pro Pro Ser Pro Ser Glu Ile Leu Pro Gly Asp Pro Pro
385 390 395 400

Arg Pro Pro Thr Cys Gly Phe Leu Thr Arg
405 410

<210> 14
<211> 819
<212> PRT

<213> Varicella zoster

<400> 14

Met Gln Ser Gly His Tyr Asn Arg Arg Gln Ser Arg Arg Gln Arg Ile
1 5 10 15

Ser Ser Asn Thr Thr Asp Ser Pro Arg His Thr His Gly Thr Arg Tyr
20 25 30

Arg Ser Thr Asn Trp Tyr Thr His Pro Pro Gln Ile Leu Ser Asn Ser
35 40 45

Glu Thr Leu Val Ala Val Gln Glu Leu Leu Asn Ser Glu Met Asp Gln
50 55 60

Asp Ser Ser Ser Asp Ala Ser Asp Asp Phe Pro Gly Tyr Ala Leu His
65 70 75 80

His Ser Thr Tyr Asn Gly Ser Glu Gln Asn Thr Ser Thr Ser Arg His
85 90 95

Glu Asn Arg Ile Phe Lys Leu Thr Glu Arg Glu Ala Asn Glu Glu Ile
100 105 110

Asn Ile Asn Thr Asp Ala Ile Asp Asp Glu Gly Glu Ala Glu Glu Gly
115 120 125

Glu Ala Glu Glu Asp Ala Ile Asp Asp Glu Gly Glu Ala Glu Glu Gly
130 135 140

Glu Ala Glu Glu Asp Ala Ile Asp Asp Glu Gly Glu Ala Glu Glu Gly
145 150 155 160

Glu Ala Glu Glu Asp Ala Ile Asp Asp Glu Gly Glu Ala Glu Glu Gly
165 170 175

Glu Ala Glu Glu Gly Glu Ala Glu Glu Gly Glu Ala Glu Glu Asp Ala
180 185 190

Ile Asp Asp Glu Gly Glu Ala Glu Glu Asp Ala Ala Glu Glu Asp Ala
195 200 205

Ile Asp Asp Glu Gly Glu Ala Glu Glu Asp Tyr Phe Ser Val Ser Gln
210 215 220

Val Cys Ser Arg Asp Ala Asp Glu Val Tyr Phe Thr Leu Asp Pro Glu
225 230 235 240

Ile Ser Tyr Ser Thr Asp Leu Arg Ile Ala Lys Val Met Glu Pro Ala
245 250 255

Val Ser Lys Glu Leu Asn Val Ser Lys Arg Cys Val Glu Pro Val Thr
260 265 270

Leu Thr Gly Ser Met Leu Ala His Asn Gly Phe Asp Glu Ser Trp Phe
275 280 285

Ala Met Arg Glu Cys Thr Arg Arg Glu Tyr Ile Thr Val Gln Gly Leu
290 295 300

Tyr Asp Pro Ile His Leu Arg Tyr Gln Phe Asp Thr Ser Arg Met Thr
305 310 315 320

Pro Pro Gln Ile Leu Arg Thr Ile Pro Ala Leu Pro Asn Met Thr Leu
325 330 335

Gly Glu Leu Leu Leu Ile Phe Pro Ile Glu Phe Met Ala Gln Pro Ile
340 345 350

Ser Ile Glu Arg Ile Leu Val Glu Asp Val Phe Leu Asp Arg Arg Ala
355 360 365

Ser Ser Lys Thr His Lys Tyr Gly Pro Arg Trp Asn Ser Val Tyr Ala
370 375 380

Leu Pro Tyr Asn Ala Gly Lys Met Tyr Val Gln His Ile Pro Gly Phe
385 390 395 400

Tyr Asp Val Ser Leu Arg Ala Val Gly Gln Gly Thr Ala Ile Trp His
405 410 415

His Met Ile Leu Ser Thr Ala Ala Cys Ala Ile Ser Asn Arg Ile Ser
420 425 430

His Gly Asp Gly Leu Gly Phe Leu Leu Asp Ala Ala Ile Arg Ile Ser
435 440 445

Ala Asn Cys Ile Phe Leu Gly Arg Asn Asp Asn Phe Gly Val Gly Asp
450 455 460

Pro Cys Trp Leu Glu Asp His Leu Ala Gly Leu Pro Arg Glu Ala Val
465 470 475 480

Pro Asp Val Leu Gln Val Thr Gln Leu Val Leu Pro Asn Arg Gly Pro
485 490 495

Thr Val Ala Ile Met Arg Gly Phe Phe Gly Ala Leu Ala Tyr Trp Pro
500 505 510

Glu Leu Arg Ile Ala Ile Ser Glu Pro Ser Thr Ser Leu Val Arg Tyr
515 520 525

Ala Thr Gly His Met Glu Leu Ala Glu Trp Phe Leu Phe Ser Arg Thr
530 535 540

His Ser Leu Lys Pro Gln Phe Thr Pro Thr Glu Arg Glu Met Leu Ala
545 550 555 560

Ser Phe Phe Thr Leu Tyr Val Thr Leu Gly Gly Gly Met Leu Asn Trp
565 570 575

Ile Cys Arg Ala Thr Ala Met Tyr Leu Ala Ala Pro Tyr His Ser Arg
580 585 590

Ser Ala Tyr Ile Ala Val Cys Glu Ser Leu Pro Tyr Tyr Tyr Ile Pro
595 600 605

Val Asn Ser Asp Leu Leu Cys Asp Leu Glu Val Leu Leu Leu Gly Glu
610 615 620

Val Asp Leu Pro Thr Val Cys Glu Ser Tyr Ala Thr Ile Ala His Glu
625 630 635 640

Leu Thr Gly Tyr Glu Ala Val Arg Thr Ala Ala Thr Asn Phe Met Ile
645 650 655

Glu Phe Ala Asp Cys Tyr Lys Glu Ser Glu Thr Asp Leu Met Val Ser
660 665 670

Ala Tyr Leu Gly Ala Val Leu Leu Leu Gln Arg Val Leu Gly His Ala
675 680 685

Asn Leu Leu Leu Leu Leu Leu Ser Gly Ala Ala Leu Tyr Gly Gly Cys
690 695 700

Ser Ile Tyr Ile Pro Arg Gly Ile Leu Asp Ala Tyr Asn Thr Leu Met
705 710 715 720

Leu Ala Ala Ser Pro Leu Tyr Ala His Gln Thr Leu Thr Ser Phe Trp
725 730 735

Lys Asp Arg Asp Asp Ala Met Gln Thr Leu Gly Ile Arg Pro Thr Thr
740 745 750

Asp Val Leu Pro Lys Glu Gln Asp Arg Ile Val Gln Ala Ser Pro Ile
755 760 765

Glu Met Asn Phe Arg Phe Val Gly Leu Glu Thr Ile Tyr Pro Arg Glu
770 775 780

Gln Pro Ile Pro Ser Val Asp Leu Ala Glu Asn Leu Met Gln Tyr Arg
785 790 795 800

Asn Glu Ile Leu Gly Leu Asp Trp Lys Ser Val Ala Met His Leu Leu
805 810 815

Arg Lys Tyr

<210> 15
<211> 661
<212> PRT
<213> Varicella zoster

<400> 15

Met Phe Ser Arg Phe Ala Arg Ser Phe Ser Ser Asp Asp Arg Thr Arg
1 5 10 15

Lys Ser Tyr Asp Gly Ser Tyr Gln Ser Phe Asn Ala Gly Glu Arg Asp
20 25 30

Leu Pro Thr Pro Thr Arg Asp Trp Cys Ser Ile Ser Gln Arg Ile Thr
35 40 45

Ser Glu Arg Val Arg Asp Gly Cys Leu Ile Pro Thr Pro Gly Glu Ala
50 55 60

Leu Glu Thr Ala Val Lys Ala Leu Ser Glu Lys Thr Asp Ser Leu Thr
65 70 75 80

Ser Pro Val Leu Gln Ser Thr Glu Arg His Ser Val Leu Leu Gly Leu

				85					90					95				
His	His	Asn	Asn	Val	Pro	Glu	Ser	Leu	Val	Val	Ser	Cys	Met	Ser	Asn			
			100					105					110					
Asp	Val	His	Asp	Gly	Phe	Met	Gln	Arg	Tyr	Met	Glu	Thr	Ile	Gln	Arg			
		115					120					125						
Cys	Leu	Asp	Asp	Leu	Lys	Leu	Ser	Gly	Asp	Gly	Leu	Trp	Trp	Val	Tyr			
	130					135					140							
Glu	Asn	Thr	Tyr	Trp	Gln	Tyr	Leu	Lys	Tyr	Thr	Thr	Gly	Ala	Glu	Val			
145					150					155					160			
Pro	Val	Thr	Ser	Glu	Lys	Val	Asn	Lys	Lys	Ser	Lys	Ser	Thr	Val	Leu			
				165					170					175				
Leu	Phe	Ser	Ser	Val	Val	Ala	Asn	Lys	Pro	Ile	Ser	Arg	His	Pro	Phe			
			180					185					190					
Lys	Ser	Lys	Val	Ile	Asn	Ser	Asp	Tyr	Arg	Gly	Ile	Cys	Gln	Glu	Leu			
		195					200					205						
Arg	Glu	Ala	Leu	Gly	Ala	Val	Gln	Lys	Tyr	Met	Tyr	Phe	Met	Arg	Pro			
	210					215					220							
Asp	Asp	Pro	Thr	Asn	Pro	Ser	Pro	Asp	Thr	Arg	Ile	Arg	Val	Gln	Glu			
225				230						235					240			
Ile	Ala	Ala	Tyr	Thr	Ala	Thr	Gly	Tyr	Gly	Trp	Met	Leu	Trp	Phe	Leu			
				245					250					255				
Asp	Val	Val	Asp	Ala	Arg	Val	Cys	Arg	His	Leu	Lys	Leu	Gln	Phe	Arg			
			260					265					270					
Arg	Ile	Arg	Gly	Pro	Arg	Ala	Ser	Val	Ile	Pro	Asp	Asp	Leu	Leu	Arg			
		275					280					285						
Arg	His	Leu	Lys	Thr	Gly	Pro	Ala	Val	Ser	Ala	Gly	Thr	Gly	Val	Ala			
	290					295					300							
Phe	Ile	Leu	Ala	Ala	Thr	Thr	Ala	Ser	Ala	Leu	Thr	Ala	Leu	Leu	Arg			
305					310					315					320			
Ile	Ser	Val	Leu	Trp	Arg	Lys	Glu	Glu	Trp	Arg	Asp	Gly	Leu	Asn	Gly			

					325						330				335
Thr	Ala	Ala	Ala	Ile	Val	Ala	Ala	Val	Glu	Leu	Ile	Thr	Leu	Leu	His
			340					345					350		
His	His	Phe	Gln	Tyr	Leu	Ile	Asn	Met	Met	Leu	Ile	Gly	Tyr	Ala	Cys
		355					360					365			
Trp	Gly	Asp	Gly	Gly	Leu	Asn	Asp	Pro	Tyr	Ile	Leu	Lys	Ala	Leu	Arg
	370					375					380				
Ala	Gln	Gly	Arg	Phe	Leu	Tyr	Phe	Ala	Gly	Gln	Leu	Val	Arg	Thr	Met
385					390					395					400
Ser	Thr	His	Ser	Trp	Val	Val	Leu	Glu	Thr	Ser	Thr	His	Met	Trp	Phe
				405					410					415	
Ser	Arg	Ala	Val	Ala	Gln	Ser	Ile	Leu	Ala	His	Gly	Gly	Lys	Pro	Thr
			420					425					430		
Lys	Tyr	Tyr	Ala	Gln	Val	Leu	Ala	Ala	Ser	Lys	Arg	Tyr	Thr	Pro	Leu
		435					440					445			
His	Leu	Arg	Arg	Ile	Ser	Glu	Pro	Ser	Ser	Val	Ser	Asp	Gln	Pro	Tyr
	450					455					460				
Ile	Arg	Phe	Asn	Arg	Leu	Gly	Ser	Pro	Ile	Gly	Thr	Gly	Ile	Gly	Asn
465					470					475					480
Leu	Glu	Cys	Val	Cys	Leu	Thr	Gly	Asn	Tyr	Leu	Ser	Asp	Asp	Val	Asn
				485					490					495	
Ala	Ser	Ser	His	Val	Ile	Asn	Thr	Glu	Ala	Pro	Leu	Asn	Ser	Ile	Ala
			500					505					510		
Pro	Asp	Thr	Asn	Arg	Gln	Arg	Thr	Ser	Arg	Val	Leu	Val	Arg	Pro	Asp
		515					520					525			
Thr	Gly	Leu	Asp	Val	Thr	Val	Arg	Lys	Asn	His	Cys	Leu	Asp	Ile	Gly
	530					535					540				
His	Thr	Asp	Gly	Ser	Pro	Val	Asp	Pro	Thr	Tyr	Pro	Asp	His	Tyr	Thr
545					550					555					560
Arg	Ile	Lys	Ala	Glu	Tyr	Glu	Gly	Pro	Val	Arg	Asp	Glu	Ser	Asn	Thr

	565		570		575
Met Phe Asp Gln Arg Ser Asp Leu Arg His Ile Glu Thr Gln Ala Ser	580		585		590
Leu Asn Asp His Val Tyr Glu Asn Ile Pro Pro Lys Glu Val Gly Phe	595		600		605
Asn Ser Ser Ser Asp Leu Asp Val Asp Ser Leu Asn Gly Tyr Thr Ser	610		615		620
Gly Asp Met His Thr Asp Asp Asp Leu Ser Pro Asp Phe Ile Pro Asn	625		630		635
Asp Val Pro Val Arg Cys Lys Thr Thr Val Thr Phe Arg Lys Asn Thr		645		650	655
Pro Lys Ser His His		660			
<210> 16					
<211> 301					
<212> PRT					
<213> Varicella zoster					
<400> 16					
Met Gly Asp Leu Ser Cys Trp Thr Lys Val Pro Gly Phe Thr Leu Thr	1	5	10		15
Gly Glu Leu Gln Tyr Leu Lys Gln Val Asp Asp Ile Leu Arg Tyr Gly		20	25		30
Val Arg Lys Arg Asp Arg Thr Gly Ile Gly Thr Leu Ser Leu Phe Gly		35	40		45
Met Gln Ala Arg Tyr Asn Leu Arg Asn Glu Phe Pro Leu Leu Thr Thr	50		55		60
Lys Arg Val Phe Trp Arg Ala Val Val Glu Glu Leu Leu Trp Phe Ile	65		70		75
Arg Gly Ser Thr Asp Ser Lys Glu Leu Ala Ala Lys Asp Ile His Ile		85		90	95
Trp Asp Ile Tyr Gly Ser Ser Lys Phe Leu Asn Arg Asn Gly Phe His		100		105	110

Lys Arg His Thr Gly Asp Leu Gly Pro Ile Tyr Gly Phe Gln Trp Arg
115 120 125

His Phe Gly Ala Glu Tyr Lys Asp Cys Gln Ser Asn Tyr Leu Gln Gln
130 135 140

Gly Ile Asp Gln Leu Gln Thr Val Ile Asp Thr Ile Lys Thr Asn Pro
145 150 155 160

Glu Ser Arg Arg Met Ile Ile Ser Ser Trp Asn Pro Lys Asp Ile Pro
165 170 175

Leu Met Val Leu Pro Pro Cys His Thr Leu Cys Gln Phe Tyr Val Ala
180 185 190

Asn Gly Glu Leu Ser Cys Gln Val Tyr Gln Arg Ser Gly Asp Met Gly
195 200 205

Leu Gly Val Pro Phe Asn Ile Ala Gly Tyr Ala Leu Leu Thr Tyr Ile
210 215 220

Val Ala His Val Thr Gly Leu Lys Thr Gly Asp Leu Ile His Thr Met
225 230 235 240

Gly Asp Ala His Ile Tyr Leu Asn His Ile Asp Ala Leu Lys Val Gln
245 250 255

Leu Ala Arg Ser Pro Lys Pro Phe Pro Cys Leu Lys Ile Ile Arg Asn
260 265 270

Val Thr Asp Ile Asn Asp Phe Lys Trp Asp Asp Phe Gln Leu Asp Gly
275 280 285

Tyr Asn Pro His Pro Pro Leu Lys Met Glu Met Ala Leu
290 295 300

<210> 17
<211> 455
<212> PRT
<213> Varicella zoster

<400> 17

Met Gly Leu Phe Gly Leu Thr Arg Phe Ile His Glu His Lys Leu Val
1 5 10 15

Lys	Pro	Ser	Ile	Ile	Ser	Thr	Pro	Pro	Gly	Val	Leu	Thr	Pro	Val	Ala		
			20					25					30				
Val	Asp	Val	Trp	Asn	Val	Met	Tyr	Thr	Leu	Leu	Glu	Arg	Leu	Tyr	Pro		
		35					40					45					
Val	Gly	Lys	Arg	Glu	Asn	Leu	His	Gly	Pro	Ser	Val	Thr	Ile	His	Cys		
	50					55					60						
Leu	Gly	Val	Leu	Leu	Arg	Leu	Leu	Thr	Gln	Arg	Ser	Tyr	Tyr	Pro	Ile		
65					70					75					80		
Phe	Val	Leu	Glu	Arg	Cys	Thr	Asp	Gly	Pro	Leu	Ser	Arg	Gly	Ala	Lys		
				85					90					95			
Ala	Ile	Met	Ser	Arg	Ala	Met	Asn	His	Asp	Glu	Arg	Gly	Thr	Ser	Asp		
			100					105					110				
Leu	Thr	Arg	Val	Leu	Leu	Ser	Ser	Asn	Thr	Ser	Cys	Ser	Ile	Lys	Tyr		
		115						120				125					
Asn	Lys	Thr	Ser	Glu	Thr	Tyr	Asp	Ser	Val	Phe	Arg	Asn	Ser	Ser	Thr		
	130						135				140						
Ser	Cys	Ile	Pro	Ser	Glu	Glu	Asn	Lys	Ser	Gln	Asp	Met	Phe	Leu	Asp		
145					150					155					160		
Gly	Cys	Pro	Arg	Gln	Thr	Asp	Lys	Thr	Ile	Cys	Leu	Arg	Asp	Gln	Asn		
				165					170					175			
Val	Cys	Ser	Leu	Thr	Ser	Thr	Met	Pro	Ser	Arg	Gly	His	Pro	Asn	His		
			180					185					190				
Arg	Leu	Tyr	His	Lys	Leu	Cys	Ala	Ser	Leu	Ile	Arg	Trp	Met	Gly	Tyr		
		195					200					205					
Ala	Tyr	Val	Glu	Ala	Val	Asp	Ile	Glu	Ala	Asp	Glu	Ala	Cys	Ala	Asn		
	210					215					220						
Leu	Phe	His	Thr	Arg	Thr	Val	Ala	Leu	Val	Tyr	Thr	Thr	Asp	Thr	Asp		
225					230					235					240		
Leu	Leu	Phe	Met	Gly	Cys	Asp	Ile	Leu	Leu	Asp	Ala	Ile	Pro	Met	Phe		
				245					250					255			

Ala Pro Val Val Arg Cys Arg Asp Leu Leu Gln Tyr Leu Gly Ile Thr
260 265 270

Tyr Pro Glu Phe Leu Val Ala Phe Val Arg Cys Gln Thr Asp Leu His
275 280 285

Thr Ser Asp Asn Leu Lys Ser Val Gln Gln Val Ile Gln Asp Thr Gly
290 295 300

Leu Lys Val Pro His Gln Met Asp Thr Ser Thr Arg Ser Pro Thr Tyr
305 310 315 320

Asp Ser Trp Arg His Gly Glu Val Phe Lys Ser Leu Thr Val Ala Thr
325 330 335

Ser Gly Lys Thr Glu Asn Gly Val Ser Val Ser Lys Tyr Ala Ser Asn
340 345 350

Arg Ser Glu Val Thr Val Asp Ala Ser Trp Ala Leu Asn Leu Leu Pro
355 360 365

Pro Ser Ser Ser Pro Leu Asp Asn Leu Glu Arg Ala Phe Val Glu His
370 375 380

Ile Ile Ala Val Val Thr Pro Leu Thr Arg Gly Arg Leu Lys Leu Met
385 390 395 400

Lys Arg Val Asn Ile Met Gln Asn Thr Ala Asp Pro Tyr Met Val Ile
405 410 415

Asn Thr Leu Tyr His Asn Leu Lys Gly Glu Lys Met Ala Arg Gln Tyr
420 425 430

Ala Arg Ile Phe Lys Gln Phe Ile Pro Thr Pro Leu Pro Leu Asn Thr
435 440 445

Val Leu Thr Lys Tyr Trp Asn
450 455

<210> 18
<211> 1038
<212> PRT
<213> Varicella zoster

<400> 18

Met	Glu	Glu	Pro	Ile	Cys	Tyr	Asp	Thr	Gln	Lys	Leu	Leu	Asp	Asp	Leu	
1				5					10					15		
Ser	Asn	Leu	Lys	Val	Gln	Glu	Ala	Asp	Asn	Glu	Arg	Pro	Trp	Ser	Pro	
			20					25					30			
Glu	Lys	Thr	Glu	Ile	Ala	Arg	Val	Lys	Val	Val	Lys	Phe	Leu	Arg	Ser	
		35					40					45				
Thr	Gln	Lys	Ile	Pro	Ala	Lys	His	Phe	Ile	Gln	Ile	Trp	Glu	Pro	Leu	
	50					55						60				
His	Ser	Asn	Ile	Cys	Phe	Val	Tyr	Ser	Asn	Thr	Phe	Leu	Ala	Glu	Ala	
65					70					75					80	
Ala	Phe	Thr	Ala	Glu	Asn	Leu	Pro	Gly	Leu	Leu	Phe	Trp	Arg	Leu	Asp	
			85						90					95		
Leu	Asp	Trp	Thr	Ile	Glu	Glu	Pro	Gly	Asn	Ser	Leu	Lys	Ile	Leu	Thr	
			100					105					110			
Gln	Leu	Ser	Ser	Val	Val	Gln	Asp	Ser	Glu	Thr	Leu	His	Arg	Leu	Ser	
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Ala	Asn	Lys	Leu	Arg	Thr	Ser	Ser	Lys	Phe	Gly	Pro	Val	Ser	Ile	His	
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Phe	Ile	Ile	Thr	Asp	Trp	Ile	Asn	Met	Tyr	Glu	Val	Ala	Leu	Lys	Asp	
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Ala	Thr	Thr	Ala	Ile	Glu	Ser	Pro	Phe	Thr	His	Ala	Arg	Ile	Gly	Met	
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Tyr	Asp	Met	Pro	Phe	Val	Gln	Glu	Gly	Ile	Arg	Val	Leu	Thr	Gln	Tyr	
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Ala	Gly	Trp	Leu	Leu	Pro	Phe	Asn	Val	Met	Trp	Asn	Gln	Ile	Gln	Asn	
	210					215					220					
Ser	Ser	Leu	Thr	Pro	Leu	Thr	Arg	Ala	Leu	Phe	Ile	Ile	Cys	Met	Ile	
225					230					235					240	

Asp	Glu	Tyr	Leu	Thr	Glu	Thr	Pro	Val	His	Ser	Ile	Ser	Glu	Leu	Phe	245	250	255
Ala	Asp	Thr	Val	Asn	Leu	Ile	Lys	Asp	Glu	Ala	Phe	Val	Ser	Ile	Glu	260	265	270
Glu	Ala	Val	Thr	Asn	Pro	Arg	Thr	Val	His	Glu	Ser	Arg	Ile	Ser	Ser	275	280	285
Ala	Leu	Ala	Tyr	Arg	Asp	Pro	Tyr	Val	Phe	Glu	Thr	Ser	Pro	Gly	Met	290	295	300
Leu	Ala	Arg	Arg	Leu	Arg	Leu	Asp	Asn	Gly	Ile	Trp	Glu	Ser	Asn	Leu	305	310	315
Leu	Ser	Leu	Ser	Thr	Pro	Gly	Ile	His	Ile	Glu	Ala	Leu	Leu	His	Leu	325	330	335
Leu	Asn	Ser	Asp	Pro	Glu	Ala	Glu	Thr	Thr	Ser	Gly	Ser	Asn	Val	Ala	340	345	350
Glu	His	Thr	Arg	Gly	Ile	Trp	Glu	Lys	Val	Gln	Ala	Ser	Thr	Ser	Pro	355	360	365
Ser	Met	Leu	Ile	Ser	Thr	Leu	Ala	Glu	Ser	Gly	Phe	Thr	Arg	Phe	Ser	370	375	380
Cys	Lys	Leu	Leu	Arg	Arg	Phe	Ile	Ala	His	His	Thr	Leu	Ala	Gly	Phe	385	390	395
Ile	His	Gly	Ser	Val	Val	Ala	Asp	Glu	His	Ile	Thr	Asp	Phe	Gln	Gln	405	410	415
Thr	Leu	Gly	Cys	Leu	Ala	Leu	Val	Gly	Gly	Leu	Ala	Tyr	Gln	Leu	Val	420	425	430
Glu	Thr	Tyr	Ala	Pro	Thr	Thr	Glu	Tyr	Val	Leu	Thr	Tyr	Thr	Arg	Thr	435	440	445
Val	Asn	Glu	Thr	Glu	Lys	Arg	Tyr	Glu	Thr	Leu	Leu	Pro	Ala	Leu	Gly	450	455	460
Leu	Pro	Pro	Gly	Gly	Leu	Gly	Gln	Ile	Met	Arg	Arg	Cys	Phe	Ala	Pro	465	470	475

Arg	Pro	Leu	Ile	Glu	Ser	Ile	Gln	Ala	Thr	Arg	Val	Ile	Leu	Leu	Asn	
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Glu	Ile	Ser	His	Ala	Glu	Ala	Arg	Glu	Thr	Thr	Tyr	Phe	Lys	Gln	Thr	
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His	Asn	Gln	Ser	Ser	Gly	Ala	Leu	Leu	Pro	Gln	Ala	Gly	Gln	Ser	Ala	
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Val	Arg	Glu	Ala	Val	Leu	Thr	Trp	Phe	Asp	Leu	Arg	Met	Asp	Ser	Arg	
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Trp	Gly	Ile	Thr	Pro	Pro	Val	Asp	Val	Gly	Met	Thr	Pro	Pro	Ile	Cys	
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Val	Asp	Pro	Pro	Ala	Thr	Gly	Leu	Glu	Ala	Val	Met	Ile	Thr	Glu	Ala	
				565					570					575		
Leu	Lys	Ile	Ala	Tyr	Pro	Thr	Glu	Tyr	Asn	Arg	Ser	Ser	Val	Phe	Val	
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Arg	Pro	Ser	Ile	Thr	Asn	Ser	Val	Phe	Leu	Ala	Thr	Leu	Tyr	Tyr	Asp	
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Glu	Leu	Tyr	Gly	Arg	Trp	Thr	Arg	Leu	Asp	Lys	Thr	Ser	Gln	Ala	Leu	725	730	735
Val	Glu	Asn	Phe	Thr	Ser	Asn	Ala	Leu	Val	Val	Ser	Arg	Tyr	Met	Leu	740	745	750
Met	Leu	Gln	Lys	Phe	Phe	Ala	Cys	Arg	Phe	Tyr	Pro	Thr	Pro	Asp	Leu	755	760	765
Gln	Ala	Val	Gly	Ile	Cys	Asn	Pro	Lys	Val	Glu	Arg	Asp	Glu	Gln	Phe	770	775	780
Gly	Val	Trp	Arg	Leu	Asn	Asp	Leu	Ala	Asp	Ala	Val	Gly	His	Ile	Val	785	790	795
Gly	Thr	Ile	Gln	Gly	Ile	Arg	Thr	Gln	Met	Arg	Val	Gly	Ile	Ser	Ser	805	810	815
Leu	Arg	Thr	Ile	Met	Ala	Asp	Ala	Ser	Ser	Ala	Leu	Arg	Glu	Cys	Glu	820	825	830
Asn	Leu	Met	Thr	Lys	Thr	Ser	Thr	Ser	Ala	Ile	Gly	Pro	Leu	Phe	Ser	835	840	845
Thr	Met	Ala	Ser	Arg	Tyr	Ala	Arg	Phe	Thr	Gln	Asp	Gln	Met	Asp	Ile	850	855	860
Leu	Met	Arg	Val	Asp	Lys	Leu	Thr	Thr	Gly	Glu	Asn	Ile	Pro	Gly	Leu	865	870	875
Ala	Asn	Val	Glu	Ile	Phe	Leu	Asn	Arg	Trp	Glu	Arg	Ile	Ala	Thr	Ala	885	890	895
Cys	Arg	His	Ala	Thr	Ala	Val	Pro	Ser	Ala	Glu	Ser	Ile	Ala	Thr	Val	900	905	910
Cys	Asn	Glu	Leu	Arg	Arg	Gly	Leu	Lys	Asn	Ile	Gln	Glu	Asp	Arg	Val	915	920	925
Asn	Ala	Pro	Thr	Ser	Tyr	Met	Ser	His	Ala	Arg	Asn	Leu	Glu	Asp	His	930	935	940
Lys	Ala	Ala	Val	Ser	Phe	Val	Met	Asp	Ser	Arg	Gln	Gln	Phe	Ile	Val	945	950	955

Asp Ser Gly Pro Gln Met Gly Ala Val Leu Thr Ser Gln Cys Asn Ile
965 970 975

Gly Thr Trp Glu Asn Val Asn Ala Thr Phe Leu His Asp Asn Val Lys
980 985 990

Ile Thr Thr Thr Val Arg Asp Val Ile Ser Glu Ala Pro Thr Leu Ile
995 1000 1005

Ile Gly Gln Arg Trp Leu Arg Pro Asp Glu Ile Leu Ser Asn Val
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Asp Leu Arg Leu Gly Val Pro Gly Asn Thr Ser Gly Ser Asp Pro
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<212> PRT
<213> Varicella zoster

<400> 19

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20 25 30

Leu Arg Thr Ser Leu Ser Phe Leu His Met Thr Tyr Ala His Gly Ile
35 40 45

Asn Ala Thr Leu Ser Ser Asp Met Ile Asp Gly Cys Leu Gln Glu Gly
50 55 60

Ala Ala Trp Thr Thr Asp Leu Ser Asn Met Gly Arg Gly Val Pro Asp
65 70 75 80

Met Cys Ala Leu Val Asp Leu Pro Asn Arg Ile Ser Tyr Ile Lys Leu
85 90 95

Gly Asp Thr Thr Ser Thr Cys Cys Val Leu Ser Arg Ile Tyr Gly Asp
100 105 110

Ser His Phe Phe Thr Val Pro Asp Glu Gly Phe Met Cys Thr Gln Ile
115 120 125

Pro Ala Arg Ala Phe Phe Asp Asp Val Trp Met Gly Arg Glu Glu Ser

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Tyr Thr Ile Ile Thr Val Asp Ser Thr Gly Met Ala Ile Tyr Arg Gln				
145		150		155 160
Gly Asn Ile Ser Phe Ile Phe Asp Pro His Gly His Gly Thr Ile Gly				
	165		170	175
Gln Ala Val Val Val Arg Val Asn Thr Thr Asp Val Tyr Ser Tyr Ile				
	180		185	190
Ala Ser Glu Tyr Thr His Arg Pro Asp Asn Val Glu Ser Gln Trp Ala				
	195	200		205
Ala Ala Leu Val Phe Phe Val Thr Ala Asn Asp Gly Pro Val Ser Glu				
	210	215		220
Glu Ala Leu Ser Ser Ala Val Thr Leu Ile Tyr Gly Ser Cys Asp Thr				
225		230		235 240
Tyr Phe Thr Asp Glu Gln Tyr Cys Glu Lys Leu Val Thr Ala Gln His				
	245		250	255
Pro Leu Leu Leu Ser Pro Pro Asn Ser Thr Thr Ile Val Leu Asn Lys				
	260		265	270
Ser Ser Ile Val Pro Leu His Gln Asn Val Gly Glu Ser Val Ser Leu				
	275		280	285
Glu Ala Thr Leu His Ser Thr Leu Thr Asn Thr Val Ala Leu Asp Pro				
	290		295	300
Arg Cys Ser Tyr Ser Glu Val Asp Pro Trp His Ala Val Leu Glu Thr				
305		310		315 320
Thr Ser Thr Gly Ser Gly Val Leu Asp Cys Arg Arg Arg Arg Arg Pro				
	325		330	335
Ser Trp Thr Pro Pro Ser Ser Glu Glu Asn Leu Ala Cys Ile Asp Asp				
	340		345	350
Gly Leu Val Asn Asn Thr His Ser Thr Asp Asn Leu His Lys Pro Ala				
	355		360	365
Lys Lys Val Leu Lys Phe Lys Pro Thr Val Asp Val Pro Asp Lys Thr				

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Gln	Val	Ala	His	Val	Leu	Pro	Arg	Leu	Arg	Glu	Val	Ala	Asn	Thr	Pro	
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Asp	Val	Val	Leu	Asn	Val	Ser	Asn	Val	Asp	Thr	Pro	Glu	Ser	Ser	Pro	
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Pro	Phe	Leu	Phe	Glu	Gln	Ser	Gly	Asp	Val	Asn	Met	Val	Val	Glu	Lys	
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Leu	Leu	Gln	His	Gly	His	Glu	Ile	Ser	Asn	Gly	Tyr	Val	Gln	Asn	Ala	
	450					455					460					
Val	Gly	Thr	Leu	Asp	Thr	Val	Ile	Thr	Gly	His	Thr	Asn	Val	Pro	Ile	
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Trp	Val	Thr	Arg	Pro	Leu	Val	Met	Pro	Asp	Glu	Lys	Asp	Pro	Leu	Glu	
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Leu	Phe	Ile	Asn	Leu	Thr	Ile	Leu	Arg	Leu	Thr	Gly	Phe	Val	Val	Glu	
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Ile	Gly	Pro	Leu	Gly	Glu	Ile	Leu	Thr	Gly	Phe	Pro	Ser	Ala	Ala	Glu	
	530					535					540					
Leu	Ile	Arg	Val	Thr	Ser	Leu	Ile	Leu	Thr	Asn	Met	Pro	Gly	Ala	Glu	
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Tyr	Ala	Ile	Lys	Thr	Val	Leu	Arg	Lys	Lys	Cys	Thr	Ile	Gly	Met	Leu	
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Gly	Ala	Leu	His	Ala	Glu	Leu	Asp	Val	Leu	Glu	Ala	Asp	Leu	Gly	Gly	
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Ser	Ser	Pro	Ile	Asp	Leu	Tyr	Ser	Arg	Leu	Ser	Thr	Gly	Leu	Ile	Ser	

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Ile	Leu	Asn	Ser	Pro	Ile	Ile	Ser	His	Pro	Gly	Leu	Phe	Ala	Glu	Leu				
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Ile	Pro	Thr	Arg	Thr	Gly	Ser	Leu	Ser	Glu	Arg	Ile	Arg	Leu	Leu	Cys				
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Glu	Leu	Val	Ser	Ala	Arg	Glu	Thr	Arg	Tyr	Met	Arg	Glu	His	Thr	Ala				
			660					665					670						
Leu	Val	Ser	Ser	Val	Lys	Ala	Leu	Glu	Asn	Ala	Leu	Arg	Ser	Thr	Arg				
		675					680					685							
Asn	Lys	Ile	Asp	Ala	Ile	Gln	Ile	Pro	Glu	Val	Pro	Gln	Glu	Pro	Pro				
	690					695					700								
Glu	Glu	Thr	Asp	Ile	Pro	Pro	Glu	Glu	Leu	Ile	Arg	Arg	Val	Tyr	Glu				
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Ile	Arg	Ser	Glu	Val	Thr	Met	Leu	Leu	Thr	Ser	Ala	Val	Thr	Glu	Tyr				
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Phe	Thr	Arg	Gly	Val	Leu	Tyr	Ser	Thr	Arg	Ala	Leu	Ile	Ala	Glu	Gln				
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Ser	Pro	Arg	Arg	Phe	Arg	Val	Ala	Thr	Ala	Ser	Thr	Ala	Pro	Ile	Gln				
		755					760					765							
Arg	Leu	Leu	Asp	Ser	Leu	Pro	Glu	Phe	Asp	Ala	Lys	Leu	Thr	Ala	Ile				
	770					775					780								
Ile	Ser	Ser	Leu	Ser	Ile	His	Pro	Pro	Pro	Glu	Thr	Ile	Gln	Asn	Leu				
785					790					795					800				
Pro	Val	Val	Ser	Leu	Leu	Lys	Glu	Leu	Ile	Lys	Glu	Gly	Glu	Asp	Leu				
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Asn	Thr	Asp	Thr	Ala	Leu	Val	Ser	Trp	Leu	Ser	Val	Val	Gly	Glu	Ala				
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Gln	Thr	Ala	Gly	Tyr	Leu	Ser	Arg	Arg	Glu	Phe	Asp	Glu	Leu	Ser	Arg				
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Thr	Ile	Lys	Thr	Ile	Asn	Thr	Arg	Ala	Thr	Gln	Arg	Ala	Ser	Ala	Glu				

850		855		860
Ala Glu Leu Ser Cys Phe Asn Thr Leu Ser Ala Ala Val Asp Gln Ala				
865		870		875 880
Val Lys Asp Tyr Glu Thr Tyr Asn Asn Gly Glu Val Lys Tyr Pro Glu				
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Ile Thr Arg Asp Asp Leu Leu Ala Thr Ile Val Arg Ala Thr Asp Asp				
	900		905	910
Leu Val Arg Gln Ile Lys Ile Leu Ser Asp Pro Met Ile Gln Ser Gly				
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Leu Gln Pro Ser Ile Lys Arg Arg Leu Glu Thr Arg Leu Lys Glu Val				
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Gln Thr Tyr Ala Asn Glu Ala Arg Thr Thr Gln Asp Thr Ile Lys Ser				
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Arg Lys Gln Ala Ala Tyr Asn Lys Leu Gly Gly Leu Leu Arg Pro Val				
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Thr Gly Phe Val Gly Leu Arg Ala Ala Val Asp Leu Leu Pro Glu Leu				
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Ala Ser Glu Leu Asp Val Gln Gly Ala Leu Val Asn Leu Arg Thr Lys				
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Val Leu Glu Ala Pro Val Glu Ile Arg Ser Gln Leu Thr Gly Asp				
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Phe Trp Ala Leu Phe Asn Gln Tyr Arg Asp Ile Leu Glu His Pro				
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Gly Asn Ala Arg Thr Ser Val Leu Gly Gly Leu Gly Ala Cys Phe				
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Thr Ala Ile Ile Glu Ile Val Pro Ile Pro Thr Glu Tyr Arg Pro				
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Ser Leu Leu Ala Phe Phe Gly Asp Val Ala Asp Val Leu Ala Ser				
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Asp Ile Ala Thr Val Ser Thr Asn Pro Glu Ser Glu Ser Ala Ile				

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Asn	Ala	Val	Val	Ala	Thr	Leu	Ser	Lys	Ala	Thr	Leu	Val	Ser	Ser	
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Thr	Val	Pro	Ala	Leu	Ser	Phe	Val	Leu	Ser	Leu	Tyr	Lys	Lys	Tyr	
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Glu	Ile	Asn	Asp	Ala	Ile	Leu	Ser	Ile	Gln	Thr	Asn	Val	His	Ala	
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Leu	Met	Asp	Thr	Val	Lys	Leu	Val	Glu	Val	Glu	Leu	Gln	Lys	Leu	
1190						1195					1200				
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Lys	Asp	Leu	His	Lys	Leu	Val	Thr	Met	Ala	His	Glu	Lys	Lys	Glu	
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1235						1240					1245				
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Glu	Leu	Ala	Arg	Leu	Arg	Asp	Met	Ala	Ala	Ala	Gly	Gly	Phe	Asp	
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Ile	His	Ala	Val	Tyr	Pro	Gln	Ala	Arg	Gln	Val	Val	Ala	Ala	Cys	
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Glu	Thr	Thr	Ala	Val	Thr	Ala	Leu	Asp	Thr	Val	Phe	Arg	His	Asn	

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Pro	Tyr	Thr	Pro	Glu	Asn	Thr	Asn	Ile	Pro	Pro	Pro	Leu	Ala	Leu	
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Thr	Leu	Pro	Ser	Glu	Gly	Leu	Leu	Ile	Arg	Ala	Ile	Glu	Tyr	Phe	
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Glu	Leu	Ala	Gln	Phe	Arg	Met	Val	Cys	Gln	Ala	Thr	Lys	Asn	Arg	
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Arg	Lys	Thr	Ala	Leu	Asp	Val	Val	Leu	Gln	Lys	Gln	Arg	Gln	Phe	
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Glu	Glu	Thr	Ala	Ser	Arg	Leu	Arg	Ala	Leu	Ile	Glu	Arg	Ile	Pro	
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Thr	Glu	Ser	Asp	His	Asp	Val	Leu	Arg	Met	Leu	Leu	Arg	Asp	Phe	

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Thr	Phe	Arg	Asn	Leu	Leu	Met	Val	Arg	Leu	Gly	Leu	Tyr	Ala	Ser	
1790						1795					1800				
Tyr	Ala	Glu	Ile	Phe	Pro	Pro	Ala	Ser	Pro	Asn	Gly	Val	Phe	Ala	
1805						1810					1815				
Pro	Ile	Pro	Ala	Met	Ser	Gly	Val	Cys	Leu	Glu	Asp	Gln	Ser	Arg	
1820						1825					1830				
Cys	Ile	Arg	Ala	Arg	Val	Ala	Ala	Phe	Met	Gly	Glu	Ala	Ser	Val	
1835						1840					1845				
Val	Gln	Thr	Phe	Arg	Glu	Ala	Arg	Ser	Ser	Ile	Asp	Ala	Leu	Phe	
1850						1855					1860				
Gly	Lys	Asn	Leu	Thr	Phe	Tyr	Leu	Asp	Thr	Asp	Gly	Val	Pro	Leu	
1865						1870					1875				
Arg	Tyr	Arg	Val	Cys	Tyr	Lys	Ser	Val	Gly	Val	Lys	Leu	Gly	Thr	
1880						1885					1890				
Met	Leu	Cys	Ser	Gln	Gly	Gly	Leu	Ser	Leu	Arg	Pro	Ala	Leu	Pro	
1895						1900					1905				
Asp	Glu	Gly	Ile	Val	Glu	Glu	Thr	Thr	Leu	Ser	Ala	Leu	Arg	Val	
1910						1915					1920				
Ala	Asn	Glu	Val	Asn	Glu	Leu	Arg	Ile	Glu	Tyr	Glu	Ser	Ala	Ile	
1925						1930					1935				
Lys	Ser	Gly	Phe	Ser	Ala	Phe	Ser	Thr	Phe	Val	Arg	His	Arg	His	
1940						1945					1950				
Ala	Glu	Trp	Gly	Lys	Thr	Asn	Ala	Arg	Arg	Ala	Ile	Ala	Glu	Ile	
1955						1960					1965				
Tyr	Ala	Gly	Leu	Ile	Thr	Thr	Thr	Leu	Thr	Arg	Gln	Tyr	Gly	Val	
1970						1975					1980				
His	Trp	Asp	Lys	Leu	Ile	Tyr	Ser	Phe	Glu	Lys	His	His	Leu	Thr	

1985				1990				1995						
Ser	Val	Met	Gly	Asn	Gly	Leu	Thr	Lys	Pro	Ile	Gln	Arg	Arg	Gly
2000						2005					2010			
Asp	Val	Arg	Val	Leu	Glu	Leu	Thr	Leu	Ser	Asp	Ile	Val	Thr	Ile
2015						2020					2025			
Leu	Val	Ala	Thr	Thr	Pro	Val	His	Leu	Leu	Asn	Phe	Ala	Arg	Leu
2030						2035					2040			
Asp	Leu	Ile	Lys	Gln	His	Glu	Tyr	Met	Ala	Arg	Thr	Leu	Arg	Pro
2045						2050					2055			
Val	Ile	Glu	Ala	Ala	Phe	Arg	Gly	Arg	Leu	Leu	Val	Arg	Ser	Leu
2060						2065					2070			
Asp	Gly	Asp	Pro	Lys	Gly	Asn	Ala	Arg	Ala	Phe	Phe	Asn	Ala	Ala
2075						2080					2085			
Pro	Ser	Lys	His	Lys	Leu	Pro	Leu	Ala	Leu	Gly	Ser	Asn	Gln	Asp
2090						2095					2100			
Pro	Thr	Gly	Gly	Arg	Ile	Phe	Ala	Phe	Arg	Met	Ala	Asp	Trp	Lys
2105						2110					2115			
Leu	Val	Lys	Met	Pro	Gln	Lys	Ile	Thr	Asp	Pro	Phe	Ala	Pro	Trp
2120						2125					2130			
Gln	Leu	Ser	Pro	Pro	Pro	Gly	Val	Lys	Ala	Asn	Val	Asp	Ala	Val
2135						2140					2145			
Thr	Arg	Ile	Met	Ala	Thr	Asp	Arg	Leu	Ala	Thr	Ile	Thr	Val	Leu
2150						2155					2160			
Gly	Arg	Met	Cys	Leu	Pro	Pro	Ile	Ser	Leu	Val	Ser	Met	Trp	Asn
2165						2170					2175			
Thr	Leu	Gln	Pro	Glu	Glu	Phe	Ala	Tyr	Arg	Thr	Gln	Asp	Asp	Val
2180						2185					2190			
Asp	Ile	Ile	Val	Asp	Ala	Arg	Leu	Asp	Leu	Ser	Ser	Thr	Leu	Asn
2195						2200					2205			
Ala	Arg	Phe	Asp	Thr	Ala	Pro	Ser	Asn	Thr	Thr	Leu	Glu	Trp	Asn

2210		2215		2220
Thr Asp Arg Lys Val Ile	Thr Asp Ala Tyr Ile	Gln Thr Gly Ala		
2225	2230	2235		
Thr Thr Val Phe Thr Val	Thr Gly Ala Ala Pro	Thr His Val Ser		
2240	2245	2250		
Asn Val Thr Ala Phe Asp	Ile Ala Thr Thr Ala	Ile Leu Phe Gly		
2255	2260	2265		
Ala Pro Leu Val Ile Ala	Met Glu Leu Thr Ser	Val Phe Ser Gln		
2270	2275	2280		
Asn Ser Gly Leu Thr Leu	Gly Leu Lys Leu Phe	Asp Ser Arg His		
2285	2290	2295		
Met Ala Thr Asp Ser Gly	Ile Ser Ser Ala Val	Ser Pro Asp Ile		
2300	2305	2310		
Val Ser Trp Gly Leu Arg	Leu Leu His Met Asp	Pro His Pro Ile		
2315	2320	2325		
Glu Asn Ala Cys Leu Ile	Val Gln Leu Glu Lys	Leu Ser Ala Leu		
2330	2335	2340		
Ile Ala Asn Lys Pro Leu	Thr Asn Asn Pro Pro	Cys Leu Leu Leu		
2345	2350	2355		
Leu Asp Glu His Met Asn	Pro Ser Tyr Val Leu	Trp Glu Arg Lys		
2360	2365	2370		
Asp Ser Ile Pro Ala Pro	Asp Tyr Val Val Phe	Trp Gly Pro Glu		
2375	2380	2385		
Ser Leu Ile Asp Leu Pro	Tyr Ile Asp Ser Asp	Glu Asp Ser Phe		
2390	2395	2400		
Pro Ser Cys Pro Asp Asp	Pro Phe Tyr Ser Gln	Ile Ile Ala Gly		
2405	2410	2415		
Tyr Ala Pro Gln Gly Pro	Pro Asn Leu Asp Thr	Thr Asp Phe Tyr		
2420	2425	2430		
Pro Thr Glu Pro Leu Phe	Lys Ser Pro Val Gln	Val Val Arg Ser		

2435						2440						2445			
Ser	Lys	Cys	Lys	Lys	Met	Pro	Val	Arg	Pro	Ala	Gln	Pro	Ala	Gln	
2450						2455					2460				
Pro	Ala	Gln	Pro	Ala	Gln	Pro	Ala	Gln	Thr	Val	Gln	Pro	Ala	Gln	
2465						2470					2475				
Pro	Ile	Glu	Pro	Gly	Thr	Gln	Ile	Val	Val	Gln	Asn	Phe	Lys	Lys	
2480						2485					2490				
Pro	Gln	Ser	Val	Lys	Thr	Thr	Leu	Ser	Gln	Lys	Asp	Ile	Pro	Leu	
2495						2500					2505				
Tyr	Val	Glu	Thr	Glu	Ser	Glu	Thr	Ala	Val	Leu	Ile	Pro	Lys	Gln	
2510						2515					2520				
Leu	Thr	Thr	Ser	Ile	Lys	Thr	Thr	Val	Cys	Lys	Ser	Ile	Thr	Pro	
2525						2530					2535				
Pro	Asn	Asn	Gln	Leu	Ser	Asp	Trp	Lys	Asn	Asn	Pro	Gln	Gln	Asn	
2540						2545					2550				
Gln	Thr	Leu	Asn	Gln	Ala	Phe	Ser	Lys	Pro	Ile	Leu	Glu	Ile	Thr	
2555						2560					2565				
Ser	Ile	Pro	Thr	Asp	Asp	Ser	Ile	Ser	Tyr	Arg	Thr	Trp	Ile	Glu	
2570						2575					2580				
Lys	Ser	Asn	Gln	Thr	Gln	Lys	Arg	His	Gln	Asn	Asp	Pro	Arg	Met	
2585						2590					2595				
Tyr	Asn	Ser	Lys	Thr	Val	Phe	His	Pro	Val	Asn	Asn	Gln	Leu	Pro	
2600						2605					2610				
Ser	Trp	Val	Asp	Thr	Ala	Ala	Asp	Ala	Pro	Gln	Thr	Asp	Leu	Leu	
2615						2620					2625				
Thr	Asn	Tyr	Lys	Thr	Arg	Gln	Pro	Ser	Pro	Asn	Phe	Pro	Arg	Asp	
2630						2635					2640				
Val	His	Thr	Trp	Gly	Val	Ser	Ser	Asn	Pro	Phe	Asn	Ser	Pro	Asn	
2645						2650					2655				
Arg	Asp	Leu	Tyr	Gln	Ser	Asp	Phe	Ser	Glu	Pro	Ser	Asp	Gly	Tyr	

2660		2665		2670
Ser Ser Glu Ser Glu Asn Ser Ile Val Leu Ser Leu Asp Glu His				
2675		2680		2685
Arg Ser Cys Arg Val Pro Arg His Val Arg Val Val Asn Ala Asp				
2690		2695		2700
Val Val Thr Gly Arg Arg Tyr Val Arg Gly Thr Ala Leu Gly Ala				
2705		2710		2715
Leu Ala Leu Leu Ser Gln Ala Cys Arg Arg Met Ile Asp Asn Val				
2720		2725		2730
Arg Tyr Thr Arg Lys Leu Leu Met Asp His Thr Glu Asp Ile Phe				
2735		2740		2745
Gln Gly Leu Gly Tyr Val Lys Leu Leu Leu Asp Gly Thr Tyr Ile				
2750		2755		2760

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 <213> Varicella zoster

<400> 20

Met Asp Arg Val Glu Ser Glu Glu Pro Met Asp Gly Phe Glu Ser Pro				
1	5		10	15
Val Phe Ser Glu Asn Thr Ser Ser Asn Ser Gly Trp Cys Ser Asp Ala				
	20		25	30
Phe Ser Asp Ser Tyr Ile Ala Tyr Asn Pro Ala Leu Leu Leu Lys Asn				
	35		40	45
Asp Leu Leu Phe Ser Glu Leu Leu Phe Ala Ser His Leu Ile Asn Val				
	50		55	60
Pro Arg Ala Ile Glu Asn Asn Val Thr Tyr Glu Ala Ser Ser Ala Val				
65		70	75	80
Gly Val Asp Asn Glu Met Thr Ser Ser Thr Thr Glu Phe Ile Glu Glu				
	85		90	95
Ile Gly Asp Val Leu Ala Leu Asp Arg Ala Cys Leu Val Cys Arg Thr				
	100		105	110

Leu Asp Leu Tyr Lys Arg Lys Phe Gly Leu Thr Pro Glu Trp Val Ala
115 120 125

Asp Tyr Ala Met Leu Cys Met Lys Ser Leu Ala Ser Pro Pro Cys Ala
130 135 140

Val Val Thr Phe Ser Ala Ala Phe Glu Phe Val Tyr Leu Met Asp Arg
145 150 155 160

Tyr Tyr Leu Cys Arg Tyr Asn Val Thr Leu Val Gly Ser Phe Ala Arg
165 170 175

Arg Thr Leu Ser Leu Leu Asp Ile Gln Arg His Phe Phe Leu His Val
180 185 190

Cys Phe Arg Thr Asp Gly Gly Leu Pro Gly Ile Arg Pro Pro Pro Gly
195 200 205

Lys Glu Met Ala Asn Lys Val Arg Tyr Ser Asn Tyr Ser Phe Phe Val
210 215 220

Gln Ala Val Val Arg Ala Ala Leu Leu Ser Ile Ser Thr Ser Arg Leu
225 230 235 240

Asp Glu Thr Glu Thr Arg Lys Ser Phe Tyr Phe Asn Gln Asp Gly Leu
245 250 255

Thr Gly Gly Pro Gln Pro Leu Ala Ala Ala Leu Ala Asn Trp Lys Asp
260 265 270

Cys Ala Arg Met Val Asp Cys Ser Ser Ser Glu His Arg Thr Ser Gly
275 280 285

Met Ile Thr Cys Ala Glu Arg Ala Leu Lys Glu Asp Ile Glu Phe Glu
290 295 300

Asp Ile Leu Ile Asp Lys Leu Lys Lys Ser Ser Tyr Val Glu Ala Ala
305 310 315 320

Trp Gly Tyr Ala Asp Leu Ala Leu Leu Leu Leu Ser Gly Val Ala Thr
325 330 335

Trp Asn Val Asp Glu Arg Thr Asn Cys Ala Ile Glu Thr Arg Val Gly
340 345 350

Cys Val Lys Ser Tyr Trp Gln Ala Asn Arg Ile Glu Asn Ser Arg Asp
355 360 365

Val Pro Lys Gln Phe Ser Lys Phe Thr Ser Glu Asp Ala Cys Pro Glu
370 375 380

Val Ala Phe Gly Pro Ile Leu Leu Thr Thr Leu Lys Asn Ala Lys Cys
385 390 395 400

Arg Gly Arg Thr Asn Thr Glu Cys Met Leu Cys Cys Leu Leu Thr Ile
405 410 415

Gly His Tyr Trp Ile Ala Leu Arg Gln Phe Lys Arg Asp Ile Leu Ala
420 425 430

Tyr Ser Ala Asn Asn Thr Ser Leu Phe Asp Cys Ile Glu Pro Val Ile
435 440 445

Asn Ala Trp Ser Leu Asp Asn Pro Ile Lys Leu Lys Phe Pro Phe Asn
450 455 460

Asp Glu Gly Arg Phe Ile Thr Ile Val Lys Ala Ala Gly Ser Glu Ala
465 470 475 480

Val Tyr Lys His Leu Phe Cys Asp Leu Leu Cys Ala Leu Ser Glu Leu
485 490 495

Gln Thr Asn Pro Lys Ile Leu Phe Ala His Pro Thr Thr Ala Asp Lys
500 505 510

Glu Val Leu Glu Leu Tyr Lys Ala Gln Leu Ala Ala Gln Asn Arg Phe
515 520 525

Glu Gly Arg Val Cys Ala Gly Leu Trp Thr Leu Ala Tyr Ala Phe Lys
530 535 540

Ala Tyr Gln Ile Phe Pro Arg Lys Pro Thr Ala Asn Ala Ala Phe Ile
545 550 555 560

Arg Asp Gly Gly Leu Met Leu Arg Arg His Ala Ile Ser Leu Val Ser
565 570 575

Leu Glu His Thr Leu Ser Lys Tyr Val
580 585

<210> 21
<211> 1204
<212> PRT
<213> Varicella zoster

<400> 21

Met Glu Asn Thr Gln Lys Thr Val Thr Val Pro Thr Gly Pro Leu Gly
1 5 10 15

Tyr Val Tyr Ala Cys Arg Val Glu Asp Leu Asp Leu Glu Glu Ile Ser
20 25 30

Phe Leu Ala Ala Arg Ser Thr Asp Ser Asp Leu Ala Leu Leu Pro Leu
35 40 45

Met Arg Asn Leu Thr Val Glu Lys Thr Phe Thr Ser Ser Leu Ala Val
50 55 60

Val Ser Gly Ala Arg Thr Thr Gly Leu Ala Gly Ala Gly Ile Thr Leu
65 70 75 80

Lys Leu Thr Thr Ser His Phe Tyr Pro Ser Val Phe Val Phe His Gly
85 90 95

Gly Lys His Val Leu Pro Ser Ser Ala Ala Pro Asn Leu Thr Arg Ala
100 105 110

Cys Asn Ala Ala Arg Glu Arg Phe Gly Phe Ser Arg Cys Gln Gly Pro
115 120 125

Pro Val Asp Gly Ala Val Glu Thr Thr Gly Ala Glu Ile Cys Thr Arg
130 135 140

Leu Gly Leu Glu Pro Glu Asn Thr Ile Leu Tyr Leu Val Val Thr Ala
145 150 155 160

Leu Phe Lys Glu Ala Val Phe Met Cys Asn Val Phe Leu His Tyr Gly
165 170 175

Gly Leu Asp Ile Val His Ile Asn His Gly Asp Val Ile Arg Ile Pro
180 185 190

Leu Phe Pro Val Gln Leu Phe Met Pro Asp Val Asn Arg Leu Val Pro
195 200 205

Asp 210	Pro	Phe	Asn	Thr	His	His	Arg	Ser	Ile	Gly	Glu	Gly	Phe	Val	Tyr
						215					220				
Pro 225	Thr	Pro	Phe	Tyr	Asn	Thr	Gly	Leu	Cys	His	Leu	Ile	His	Asp	Cys
					230					235					240
Val	Ile	Ala	Pro	Met	Ala	Val	Ala	Leu	Arg	Val	Arg	Asn	Val	Thr	Ala
				245					250					255	
Val	Ala	Arg	Gly	Ala	Ala	His	Leu	Ala	Phe	Asp	Glu	Asn	His	Glu	Gly
			260					265					270		
Ala	Val	Leu	Pro	Pro	Asp	Ile	Thr	Tyr	Thr	Tyr	Phe	Gln	Ser	Ser	Ser
		275					280					285			
Ser	Gly	Thr	Thr	Thr	Ala	Arg	Gly	Ala	Arg	Arg	Asn	Asp	Val	Asn	Ser
	290					295					300				
Thr	Ser	Lys	Pro	Ser	Pro	Ser	Gly	Gly	Phe	Glu	Arg	Arg	Leu	Ala	Ser
305					310					315					320
Ile	Met	Ala	Ala	Asp	Thr	Ala	Leu	His	Ala	Glu	Val	Ile	Phe	Asn	Thr
				325					330					335	
Gly	Ile	Tyr	Glu	Glu	Thr	Pro	Thr	Asp	Ile	Lys	Glu	Trp	Pro	Met	Phe
			340					345					350		
Ile	Gly	Met	Glu	Gly	Thr	Leu	Pro	Arg	Leu	Asn	Ala	Leu	Gly	Ser	Tyr
		355					360					365			
Thr	Ala	Arg	Val	Ala	Gly	Val	Ile	Gly	Ala	Met	Val	Phe	Ser	Pro	Asn
	370					375					380				
Ser	Ala	Leu	Tyr	Leu	Thr	Glu	Val	Glu	Asp	Ser	Gly	Met	Thr	Glu	Ala
385					390					395					400
Lys	Asp	Gly	Gly	Pro	Gly	Pro	Ser	Phe	Asn	Arg	Phe	Tyr	Gln	Phe	Ala
				405					410					415	
Gly	Pro	His	Leu	Ala	Ala	Asn	Pro	Gln	Thr	Asp	Arg	Asp	Gly	His	Val
			420					425					430		
Leu	Ser	Ser	Gln	Ser	Thr	Gly	Ser	Ser	Asn	Thr	Glu	Phe	Ser	Val	Asp
		435					440					445			

Tyr Leu Ala Leu Ile Cys Gly Phe Gly Ala Pro Leu Leu Ala Arg Leu
450 455 460

Leu Phe Tyr Leu Glu Arg Cys Asp Ala Gly Ala Phe Thr Gly Gly His
465 470 475 480

Gly Asp Ala Leu Lys Tyr Val Thr Gly Thr Phe Asp Ser Glu Ile Pro
485 490 495

Cys Ser Leu Cys Glu Lys His Thr Arg Pro Val Cys Ala His Thr Thr
500 505 510

Val His Arg Leu Arg Gln Arg Met Pro Arg Phe Gly Gln Ala Thr Arg
515 520 525

Gln Pro Ile Gly Val Phe Gly Thr Met Asn Ser Gln Tyr Ser Asp Cys
530 535 540

Asp Pro Leu Gly Asn Tyr Ala Pro Tyr Leu Ile Leu Arg Lys Pro Gly
545 550 555 560

Asp Gln Thr Glu Ala Ala Lys Ala Thr Met Gln Asp Thr Tyr Arg Ala
565 570 575

Thr Leu Glu Arg Leu Phe Ile Asp Leu Glu Gln Glu Arg Leu Leu Asp
580 585 590

Arg Gly Ala Pro Cys Ser Ser Glu Gly Leu Ser Ser Val Ile Val Asp
595 600 605

His Pro Thr Phe Arg Arg Ile Leu Asp Thr Leu Arg Ala Arg Ile Glu
610 615 620

Gln Thr Thr Thr Gln Phe Met Lys Val Leu Val Glu Thr Arg Asp Tyr
625 630 635 640

Lys Ile Arg Glu Gly Leu Ser Glu Ala Thr His Ser Met Ala Leu Thr
645 650 655

Phe Asp Pro Tyr Ser Gly Ala Phe Cys Pro Ile Thr Asn Phe Leu Val
660 665 670

Lys Arg Thr His Leu Ala Val Val Gln Asp Leu Ala Leu Ser Gln Cys
675 680 685

His	Cys	Val	Phe	Tyr	Gly	Gln	Gln	Val	Glu	Gly	Arg	Asn	Phe	Arg	Asn		
690						695					700						
Gln	Phe	Gln	Pro	Val	Leu	Arg	Arg	Arg	Phe	Val	Asp	Leu	Phe	Asn	Gly		
705					710					715					720		
Gly	Phe	Ile	Ser	Thr	Arg	Ser	Ile	Thr	Val	Thr	Leu	Ser	Glu	Gly	Pro		
				725					730					735			
Val	Ser	Ala	Pro	Asn	Pro	Thr	Leu	Gly	Gln	Asp	Ala	Pro	Ala	Gly	Arg		
			740					745						750			
Thr	Phe	Asp	Gly	Asp	Leu	Ala	Arg	Val	Ser	Val	Glu	Val	Ile	Arg	Asp		
		755					760					765					
Ile	Arg	Val	Lys	Asn	Arg	Val	Val	Phe	Ser	Gly	Asn	Cys	Thr	Asn	Leu		
770						775					780						
Ser	Glu	Ala	Ala	Arg	Ala	Arg	Leu	Val	Gly	Leu	Ala	Ser	Ala	Tyr	Gln		
785					790					795					800		
Arg	Gln	Glu	Lys	Arg	Val	Asp	Met	Leu	His	Gly	Ala	Leu	Gly	Phe	Leu		
				805					810					815			
Leu	Lys	Gln	Phe	His	Gly	Leu	Leu	Phe	Pro	Arg	Gly	Met	Pro	Pro	Asn		
			820					825					830				
Ser	Lys	Ser	Pro	Asn	Pro	Gln	Trp	Phe	Trp	Thr	Leu	Leu	Gln	Arg	Asn		
		835					840					845					
Gln	Met	Pro	Ala	Asp	Lys	Leu	Thr	His	Glu	Glu	Ile	Thr	Thr	Ile	Ala		
850						855					860						
Ala	Val	Lys	Arg	Phe	Thr	Glu	Glu	Tyr	Ala	Ala	Ile	Asn	Phe	Ile	Asn		
865					870					875					880		
Leu	Pro	Pro	Thr	Cys	Ile	Gly	Glu	Leu	Ala	Gln	Phe	Tyr	Met	Ala	Asn		
				885					890					895			
Leu	Ile	Leu	Lys	Tyr	Cys	Asp	His	Ser	Gln	Tyr	Leu	Ile	Asn	Thr	Leu		
		900						905					910				
Thr	Ser	Ile	Ile	Thr	Gly	Ala	Arg	Arg	Pro	Arg	Asp	Pro	Ser	Ser	Val		
		915					920					925					

Leu His Trp Ile Arg Lys Asp Val Thr Ser Ala Ala Asp Ile Glu Thr
930 935 940

Gln Ala Lys Ala Leu Leu Glu Lys Thr Glu Asn Leu Pro Glu Leu Trp
945 950 955 960

Thr Thr Ala Phe Thr Ser Thr His Leu Val Arg Ala Ala Met Asn Gln
965 970 975

Arg Pro Met Val Val Leu Gly Ile Ser Ile Ser Lys Tyr His Gly Ala
980 985 990

Ala Gly Asn Asn Arg Val Phe Gln Ala Gly Asn Trp Ser Gly Leu Asn
995 1000 1005

Gly Gly Lys Asn Val Cys Pro Leu Phe Thr Phe Asp Arg Thr Arg
1010 1015 1020

Arg Phe Ile Ile Ala Cys Pro Arg Gly Gly Phe Ile Cys Pro Val
1025 1030 1035

Thr Gly Pro Ser Ser Gly Asn Arg Glu Thr Thr Leu Ser Asp Gln
1040 1045 1050

Val Arg Gly Ile Ile Val Ser Gly Gly Ala Met Val Gln Leu Ala
1055 1060 1065

Ile Tyr Ala Thr Val Val Arg Ala Val Gly Ala Arg Ala Gln His
1070 1075 1080

Met Ala Phe Asp Asp Trp Leu Ser Leu Thr Asp Asp Glu Phe Leu
1085 1090 1095

Ala Arg Asp Leu Glu Glu Leu His Asp Gln Ile Ile Gln Thr Leu
1100 1105 1110

Glu Thr Pro Trp Thr Val Glu Gly Ala Leu Glu Ala Val Lys Ile
1115 1120 1125

Leu Asp Glu Lys Thr Thr Ala Gly Asp Gly Glu Thr Pro Thr Asn
1130 1135 1140

Leu Ala Phe Asn Phe Asp Ser Cys Glu Pro Ser His Asp Thr Thr
1145 1150 1155

Ser Asn Val Leu Asn Ile Ser Gly Ser Asn Ile Ser Gly Ser Thr
 1160 1165 1170

Val Pro Gly Leu Lys Arg Pro Pro Glu Asp Asp Glu Leu Phe Asp
 1175 1180 1185

Leu Ser Gly Ile Pro Ile Lys His Gly Asn Ile Thr Met Glu Met
 1190 1195 1200

Ile

<210> 22
 <211> 770
 <212> PRT
 <213> Varicella zoster

<400> 22

Met Glu Leu Asp Ile Asn Arg Thr Leu Leu Val Leu Leu Gly Gln Val
 1 5 10 15

Tyr Thr Tyr Ile Phe Gln Val Glu Leu Leu Arg Arg Cys Asp Pro Arg
 20 25 30

Val Ala Cys Arg Phe Leu Tyr Arg Leu Ala Ala Asn Cys Leu Thr Val
 35 40 45

Arg Tyr Leu Leu Lys Leu Phe Leu Arg Gly Phe Asn Thr Gln Leu Lys
 50 55 60

Phe Gly Asn Thr Pro Thr Val Cys Ala Leu His Trp Ala Leu Cys Tyr
 65 70 75 80

Val Lys Gly Glu Gly Glu Arg Leu Phe Glu Leu Leu Gln His Phe Lys
 85 90 95

Thr Arg Phe Val Tyr Gly Glu Thr Lys Asp Ser Asn Cys Ile Lys Asp
 100 105 110

Tyr Phe Val Ser Ala Phe Asn Leu Lys Thr Cys Gln Tyr His His Glu
 115 120 125

Leu Ser Leu Thr Thr Tyr Gly Gly Tyr Val Ser Ser Glu Ile Gln Phe
 130 135 140

Leu His Asp Ile Glu Asn Phe Leu Lys Gln Leu Asn Tyr Cys Tyr Ile
145 150 155 160

Ile Thr Ser Ser Arg Glu Ala Leu Asn Thr Leu Glu Thr Val Thr Arg
165 170 175

Phe Met Thr Asp Thr Ile Gly Ser Gly Leu Ile Pro Pro Val Glu Leu
180 185 190

Phe Asp Pro Ala His Pro Cys Ala Ile Cys Phe Glu Glu Leu Cys Ile
195 200 205

Thr Ala Asn Gln Gly Glu Thr Leu His Arg Arg Leu Leu Gly Cys Ile
210 215 220

Cys Asp His Val Thr Lys Gln Val Arg Val Asn Val Asp Val Asp Asp
225 230 235 240

Ile Ile Arg Cys Leu Pro Tyr Ile Pro Asp Val Pro Asp Ile Lys Arg
245 250 255

Gln Ser Ala Val Glu Ala Leu Arg Thr Leu Gln Thr Lys Thr Val Val
260 265 270

Asn Pro Met Gly Ala Lys Asn Asp Thr Phe Asp Gln Thr Tyr Glu Ile
275 280 285

Ala Ser Thr Met Leu Asp Ser Tyr Asn Val Phe Lys Pro Ala Pro Arg
290 295 300

Cys Met Tyr Ala Ile Ser Glu Leu Lys Phe Trp Leu Thr Ser Asn Ser
305 310 315 320

Thr Glu Gly Pro Gln Arg Thr Leu Asp Val Phe Val Asp Asn Leu Asp
325 330 335

Val Leu Asn Glu His Glu Lys His Ala Glu Leu Thr Ala Val Thr Val
340 345 350

Glu Leu Ala Leu Phe Gly Lys Thr Pro Ile His Phe Asp Arg Ala Phe
355 360 365

Ser Glu Glu Leu Gly Ser Leu Asp Ala Ile Asp Ser Ile Leu Val Gly
370 375 380

Asn Arg Ser Ser Ser Pro Asp Ser Gln Ile Glu Ala Leu Ile Lys Ala
385 390 395 400

Cys Tyr Ala His His Leu Ser Ser Pro Leu Met Arg His Ile Ser Asn
405 410 415

Pro Ser His Asp Asn Glu Ala Ala Leu Arg Gln Leu Leu Glu Arg Val
420 425 430

Gly Cys Glu Asp Asp Leu Thr Lys Glu Ala Ser Asp Ser Ala Thr Ala
435 440 445

Ser Glu Cys Asp Leu Asn Asp Asp Ser Ser Ile Thr Phe Ala Val His
450 455 460

Gly Trp Glu Asn Leu Leu Ser Lys Ala Lys Ile Asp Ala Ala Glu Arg
465 470 475 480

Lys Arg Val Tyr Leu Glu His Leu Ser Lys Arg Ser Leu Thr Ser Leu
485 490 495

Gly Arg Cys Ile Arg Glu Gln Arg Gln Glu Leu Glu Lys Thr Leu Arg
500 505 510

Val Asn Val Tyr Gly Glu Ala Leu Leu Gln Thr Phe Val Ser Met Gln
515 520 525

Asn Gly Phe Gly Ala Arg Asn Val Phe Leu Ala Lys Val Ser Gln Ala
530 535 540

Gly Cys Ile Ile Asp Asn Arg Ile Gln Glu Ala Ala Phe Asp Ala His
545 550 555 560

Arg Phe Ile Arg Asn Thr Leu Val Arg His Thr Val Asp Ala Ala Met
565 570 575

Leu Pro Ala Leu Thr His Lys Phe Phe Glu Leu Val Asn Gly Pro Leu
580 585 590

Phe Asn His Asp Glu His Arg Phe Ala Gln Pro Pro Asn Thr Ala Leu
595 600 605

Phe Phe Thr Val Glu Asn Val Gly Leu Phe Pro His Leu Lys Glu Glu
610 615 620

Leu Ala Lys Phe Met Gly Gly Val Val Gly Ser Asn Trp Leu Leu Ser
625 630 635 640

Pro Phe Arg Gly Phe Tyr Cys Phe Ser Gly Val Glu Gly Val Thr Phe
645 650 655

Ala Gln Arg Leu Ala Trp Lys Tyr Ile Arg Glu Leu Val Phe Ala Thr
660 665 670

Thr Leu Phe Thr Ser Val Phe His Cys Gly Glu Val Arg Leu Cys Arg
675 680 685

Val Asp Arg Leu Gly Lys Asp Pro Arg Gly Cys Thr Ser Gln Pro Lys
690 695 700

Gly Ile Gly Ser Ser His Gly Pro Leu Asp Gly Ile Tyr Leu Thr Tyr
705 710 715 720

Glu Glu Thr Cys Pro Leu Val Ala Ile Ile Gln Ser Gly Glu Thr Gly
725 730 735

Ile Asp Gln Asn Thr Val Val Ile Tyr Asp Ser Asp Val Phe Ser Leu
740 745 750

Leu Tyr Thr Leu Met Gln Arg Leu Ala Pro Asp Ser Thr Asp Pro Ala
755 760 765

Phe Ser
770

<210> 23
<211> 868
<212> PRT
<213> Varicella zoster

<400> 23

Met Phe Val Thr Ala Val Val Ser Val Ser Pro Ser Ser Phe Tyr Glu
1 5 10 15

Ser Leu Gln Val Glu Pro Thr Gln Ser Glu Asp Ile Thr Arg Ser Ala
20 25 30

His Leu Gly Asp Gly Asp Glu Ile Arg Glu Ala Ile His Lys Ser Gln
35 40 45

Asp Ala Glu Thr Lys Pro Thr Phe Tyr Val Cys Pro Pro Pro Thr Gly

50						55										60
Ser	Thr	Ile	Val	Arg	Leu	Glu	Pro	Thr	Arg	Thr	Cys	Pro	Asp	Tyr	His	
65					70					75					80	
Leu	Gly	Lys	Asn	Phe	Thr	Glu	Gly	Ile	Ala	Val	Val	Tyr	Lys	Glu	Asn	
				85					90					95		
Ile	Ala	Ala	Tyr	Lys	Phe	Lys	Ala	Thr	Val	Tyr	Tyr	Lys	Asp	Val	Ile	
			100					105					110			
Val	Ser	Thr	Ala	Trp	Ala	Gly	Ser	Ser	Tyr	Thr	Gln	Ile	Thr	Asn	Arg	
		115					120					125				
Tyr	Ala	Asp	Arg	Val	Pro	Ile	Pro	Val	Ser	Glu	Ile	Thr	Asp	Thr	Ile	
	130					135					140					
Asp	Lys	Phe	Gly	Lys	Cys	Ser	Ser	Lys	Ala	Thr	Tyr	Val	Arg	Asn	Asn	
145					150					155					160	
His	Lys	Val	Glu	Ala	Phe	Asn	Glu	Asp	Lys	Asn	Pro	Gln	Asp	Met	Pro	
				165					170					175		
Leu	Ile	Ala	Ser	Lys	Tyr	Asn	Ser	Val	Gly	Ser	Lys	Ala	Trp	His	Thr	
			180					185					190			
Thr	Asn	Asp	Thr	Tyr	Met	Val	Ala	Gly	Thr	Pro	Gly	Thr	Tyr	Arg	Thr	
		195					200					205				
Gly	Thr	Ser	Val	Asn	Cys	Ile	Ile	Glu	Glu	Val	Glu	Ala	Arg	Ser	Ile	
	210					215					220					
Phe	Pro	Tyr	Asp	Ser	Phe	Gly	Leu	Ser	Thr	Gly	Asp	Ile	Ile	Tyr	Met	
225					230					235					240	
Ser	Pro	Phe	Phe	Gly	Leu	Arg	Asp	Gly	Ala	Tyr	Arg	Glu	His	Ser	Asn	
				245					250					255		
Tyr	Ala	Met	Asp	Arg	Phe	His	Gln	Phe	Glu	Gly	Tyr	Arg	Gln	Arg	Asp	
		260						265					270			
Leu	Asp	Thr	Arg	Ala	Leu	Leu	Glu	Pro	Ala	Ala	Arg	Asn	Phe	Leu	Val	
	275						280					285				
Thr	Pro	His	Leu	Thr	Val	Gly	Trp	Asn	Trp	Lys	Pro	Lys	Arg	Thr	Glu	

290				295				300							
Val	Cys	Ser	Leu	Val	Lys	Trp	Arg	Glu	Val	Glu	Asp	Val	Val	Arg	Asp
305					310					315					320
Glu	Tyr	Ala	His	Asn	Phe	Arg	Phe	Thr	Met	Lys	Thr	Leu	Ser	Thr	Thr
				325					330					335	
Phe	Ile	Ser	Glu	Thr	Asn	Glu	Phe	Asn	Leu	Asn	Gln	Ile	His	Leu	Ser
			340					345					350		
Gln	Cys	Val	Lys	Glu	Glu	Ala	Arg	Ala	Ile	Ile	Asn	Arg	Ile	Tyr	Thr
		355					360					365			
Thr	Arg	Tyr	Asn	Ser	Ser	His	Val	Arg	Thr	Gly	Asp	Ile	Gln	Thr	Tyr
	370					375					380				
Leu	Ala	Arg	Gly	Gly	Phe	Val	Val	Val	Phe	Gln	Pro	Leu	Leu	Ser	Asn
385					390					395					400
Ser	Leu	Ala	Arg	Leu	Tyr	Leu	Gln	Glu	Leu	Val	Arg	Glu	Asn	Thr	Asn
				405					410					415	
His	Ser	Pro	Gln	Lys	His	Pro	Thr	Arg	Asn	Thr	Arg	Ser	Arg	Arg	Ser
			420					425					430		
Val	Pro	Val	Glu	Leu	Arg	Ala	Asn	Arg	Thr	Ile	Thr	Thr	Thr	Ser	Ser
		435					440					445			
Val	Glu	Phe	Ala	Met	Leu	Gln	Phe	Thr	Tyr	Asp	His	Ile	Gln	Glu	His
	450					455					460				
Val	Asn	Glu	Met	Leu	Ala	Arg	Ile	Ser	Ser	Ser	Trp	Cys	Gln	Leu	Gln
465					470					475					480
Asn	Arg	Glu	Arg	Ala	Leu	Trp	Ser	Gly	Leu	Phe	Pro	Ile	Asn	Pro	Ser
				485					490					495	
Ala	Leu	Ala	Ser	Thr	Ile	Leu	Asp	Gln	Arg	Val	Lys	Ala	Arg	Ile	Leu
			500					505					510		
Gly	Asp	Val	Ile	Ser	Val	Ser	Asn	Cys	Pro	Glu	Leu	Gly	Ser	Asp	Thr
		515					520					525			
Arg	Ile	Ile	Leu	Gln	Asn	Ser	Met	Arg	Val	Ser	Gly	Ser	Thr	Thr	Arg

530						535						540				
Cys	Tyr	Ser	Arg	Pro	Leu	Ile	Ser	Ile	Val	Ser	Leu	Asn	Gly	Ser	Gly	
545					550					555					560	
Thr	Val	Glu	Gly	Gln	Leu	Gly	Thr	Asp	Asn	Glu	Leu	Ile	Met	Ser	Arg	
				565					570					575		
Asp	Leu	Leu	Glu	Pro	Cys	Val	Ala	Asn	His	Lys	Arg	Tyr	Phe	Leu	Phe	
			580					585					590			
Gly	His	His	Tyr	Val	Tyr	Tyr	Glu	Asp	Tyr	Arg	Tyr	Val	Arg	Glu	Ile	
		595					600					605				
Ala	Val	His	Asp	Val	Gly	Met	Ile	Ser	Thr	Tyr	Val	Asp	Leu	Asn	Leu	
	610					615					620					
Thr	Leu	Leu	Lys	Asp	Arg	Glu	Phe	Met	Pro	Leu	Gln	Val	Tyr	Thr	Arg	
625					630					635					640	
Asp	Glu	Leu	Arg	Asp	Thr	Gly	Leu	Leu	Asp	Tyr	Ser	Glu	Ile	Gln	Arg	
				645					650					655		
Arg	Asn	Gln	Met	His	Ser	Leu	Arg	Phe	Tyr	Asp	Ile	Asp	Lys	Val	Val	
			660					665					670			
Gln	Tyr	Asp	Ser	Gly	Thr	Ala	Ile	Met	Gln	Gly	Met	Ala	Gln	Phe	Phe	
		675					680					685				
Gln	Gly	Leu	Gly	Thr	Ala	Gly	Gln	Ala	Val	Gly	His	Val	Val	Leu	Gly	
	690					695					700					
Ala	Thr	Gly	Ala	Leu	Leu	Ser	Thr	Val	His	Gly	Phe	Thr	Thr	Phe	Leu	
705					710					715					720	
Ser	Asn	Pro	Phe	Gly	Ala	Leu	Ala	Val	Gly	Leu	Leu	Val	Leu	Ala	Gly	
				725					730					735		
Leu	Val	Ala	Ala	Phe	Phe	Ala	Tyr	Arg	Tyr	Val	Leu	Lys	Leu	Lys	Thr	
			740					745					750			
Ser	Pro	Met	Lys	Ala	Leu	Tyr	Pro	Leu	Thr	Thr	Lys	Gly	Leu	Lys	Gln	
		755					760					765				
Leu	Pro	Glu	Gly	Met	Asp	Pro	Phe	Ala	Glu	Lys	Pro	Asn	Ala	Thr	Asp	

770

775

780

Thr Pro Ile Glu Glu Ile Gly Asp Ser Gln Asn Thr Glu Pro Ser Val
 785 790 795 800

Asn Ser Gly Phe Asp Pro Asp Lys Phe Arg Glu Ala Gln Glu Met Ile
 805 810 815

Lys Tyr Met Thr Leu Val Ser Ala Ala Glu Arg Gln Glu Ser Lys Ala
 820 825 830

Arg Lys Lys Asn Lys Thr Ser Ala Leu Leu Thr Ser Arg Leu Thr Gly
 835 840 845

Leu Ala Leu Arg Asn Arg Arg Gly Tyr Ser Arg Val Arg Thr Glu Asn
 850 855 860

Val Thr Gly Val
 865

<210> 24
 <211> 143
 <212> PRT
 <213> Varicella zoster

<400> 24

Met Glu Ser Ser Asn Ile Asn Ala Leu Gln Gln Pro Ser Ser Ile Ala
 1 5 10 15

His His Pro Ser Lys Gln Cys Ala Ser Ser Leu Asn Glu Thr Val Lys
 20 25 30

Asp Ser Pro Pro Ala Ile Tyr Glu Asp Arg Leu Glu His Thr Pro Val
 35 40 45

Gln Leu Pro Arg Asp Gly Thr Pro Arg Asp Val Cys Ser Val Gly Gln
 50 55 60

Leu Thr Cys Arg Ala Cys Ala Thr Lys Pro Phe Arg Leu Asn Arg Asp
 65 70 75 80

Ser Gln Tyr Asp Tyr Leu Asn Thr Cys Pro Gly Gly Arg His Ile Ser
 85 90 95

Leu Ala Leu Glu Ile Ile Thr Gly Arg Trp Val Cys Ile Pro Arg Val
 100 105 110

Phe Pro Asp Thr Pro Glu Glu Lys Trp Met Ala Pro Tyr Ile Ile Pro
 115 120 125

Asp Arg Glu Gln Pro Ser Ser Gly Asp Glu Asp Ser Asp Thr Asp
 130 135 140

<210> 25
 <211> 341
 <212> PRT
 <213> Varicella zoster

<400> 25

Met Ser Thr Asp Lys Thr Asp Val Lys Met Gly Val Leu Arg Ile Tyr
 1 5 10 15

Leu Asp Gly Ala Tyr Gly Ile Gly Lys Thr Thr Ala Ala Glu Glu Phe
 20 25 30

Leu His His Phe Ala Ile Thr Pro Asn Arg Ile Leu Leu Ile Gly Glu
 35 40 45

Pro Leu Ser Tyr Trp Arg Asn Leu Ala Gly Glu Asp Ala Ile Cys Gly
 50 55 60

Ile Tyr Gly Thr Gln Thr Arg Arg Leu Asn Gly Asp Val Ser Pro Glu
 65 70 75 80

Asp Ala Gln Arg Leu Thr Ala His Phe Gln Ser Leu Phe Cys Ser Pro
 85 90 95

His Ala Ile Met His Ala Lys Ile Ser Ala Leu Met Asp Thr Ser Thr
 100 105 110

Ser Asp Leu Val Gln Val Asn Lys Glu Pro Tyr Lys Ile Met Leu Ser
 115 120 125

Asp Arg His Pro Ile Ala Ser Thr Ile Cys Phe Pro Leu Ser Arg Tyr
 130 135 140

Leu Val Gly Asp Met Ser Pro Ala Ala Leu Pro Gly Leu Leu Phe Thr
 145 150 155 160

Leu Pro Ala Glu Pro Pro Gly Thr Asn Leu Val Val Cys Thr Val Ser
 165 170 175

Leu Pro Ser His Leu Ser Arg Val Ser Lys Arg Ala Arg Pro Gly Glu
180 185 190

Thr Val Asn Leu Pro Phe Val Met Val Leu Arg Asn Val Tyr Ile Met
195 200 205

Leu Ile Asn Thr Ile Ile Phe Leu Lys Thr Asn Asn Trp His Ala Gly
210 215 220

Trp Asn Thr Leu Ser Phe Cys Asn Asp Val Phe Lys Gln Lys Leu Gln
225 230 235 240

Lys Ser Glu Cys Ile Lys Leu Arg Glu Val Pro Gly Ile Glu Asp Thr
245 250 255

Leu Phe Ala Val Leu Lys Leu Pro Glu Leu Cys Gly Glu Phe Gly Asn
260 265 270

Ile Leu Pro Leu Trp Ala Trp Gly Met Glu Thr Leu Ser Asn Cys Ser
275 280 285

Arg Ser Met Ser Pro Phe Val Leu Ser Leu Glu Gln Thr Pro Gln His
290 295 300

Ala Ala Gln Glu Leu Lys Thr Leu Leu Pro Gln Met Thr Pro Ala Asn
305 310 315 320

Met Ser Ser Gly Ala Trp Asn Ile Leu Lys Glu Leu Val Asn Ala Val
325 330 335

Gln Asp Asn Thr Ser
340

<210> 26
<211> 841
<212> PRT
<213> Varicella zoster

<400> 26

Met Phe Ala Leu Val Leu Ala Val Val Ile Leu Pro Leu Trp Thr Thr
1 5 10 15

Ala Asn Lys Ser Tyr Val Thr Pro Thr Pro Ala Thr Arg Ser Ile Gly
20 25 30

His Met Ser Ala Leu Leu Arg Glu Tyr Ser Asp Arg Asn Met Ser Leu
 35 40 45

Lys Leu Glu Ala Phe Tyr Pro Thr Gly Phe Asp Glu Glu Leu Ile Lys
 50 55 60

Ser Leu His Trp Gly Asn Asp Arg Lys His Val Phe Leu Val Ile Val
 65 70 75 80

Lys Val Asn Pro Thr Thr His Glu Gly Asp Val Gly Leu Val Ile Phe
 85 90 95

Pro Lys Tyr Leu Leu Ser Pro Tyr His Phe Lys Ala Glu His Arg Ala
 100 105 110

Pro Phe Pro Ala Gly Arg Phe Gly Phe Leu Ser His Pro Val Thr Pro
 115 120 125

Asp Val Ser Phe Phe Asp Ser Ser Phe Ala Pro Tyr Leu Thr Thr Gln
 130 135 140

His Leu Val Ala Phe Thr Thr Phe Pro Pro Asn Pro Leu Val Trp His
 145 150 155 160

Leu Glu Arg Ala Glu Thr Ala Ala Thr Ala Glu Arg Pro Phe Gly Val
 165 170 175

Ser Leu Leu Pro Ala Arg Pro Thr Val Pro Lys Asn Thr Ile Leu Glu
 180 185 190

His Lys Ala His Phe Ala Thr Trp Asp Ala Leu Ala Arg His Thr Phe
 195 200 205

Phe Ser Ala Glu Ala Ile Ile Thr Asn Ser Thr Leu Arg Ile His Val
 210 215 220

Pro Leu Phe Gly Ser Val Trp Pro Ile Arg Tyr Trp Ala Thr Gly Ser
 225 230 235 240

Val Leu Leu Thr Ser Asp Ser Gly Arg Val Glu Val Asn Ile Gly Val
 245 250 255

Gly Phe Met Ser Ser Leu Ile Ser Leu Ser Ser Gly Pro Pro Ile Glu
 260 265 270

Leu Ile Val Val Pro His Thr Val Lys Leu Asn Ala Val Thr Ser Asp
 275 280 285

Thr Thr Trp Phe Gln Leu Asn Pro Pro Gly Pro Asp Pro Gly Pro Ser
 290 295 300

Tyr Arg Val Tyr Leu Leu Gly Arg Gly Leu Asp Met Asn Phe Ser Lys
 305 310 315 320

His Ala Thr Val Asp Ile Cys Ala Tyr Pro Glu Glu Ser Leu Asp Tyr
 325 330 335

Arg Tyr His Leu Ser Met Ala His Thr Glu Ala Leu Arg Met Thr Thr
 340 345 350

Lys Ala Asp Gln His Asp Ile Asn Glu Glu Ser Tyr Tyr His Ile Ala
 355 360 365

Ala Arg Ile Ala Thr Ser Ile Phe Ala Leu Ser Glu Met Gly Arg Thr
 370 375 380

Thr Glu Tyr Phe Leu Leu Asp Glu Ile Val Asp Val Gln Tyr Gln Leu
 385 390 395 400

Lys Phe Leu Asn Tyr Ile Leu Met Arg Ile Gly Ala Gly Ala His Pro
 405 410 415

Asn Thr Ile Ser Gly Thr Ser Asp Leu Ile Phe Ala Asp Pro Ser Gln
 420 425 430

Leu His Asp Glu Leu Ser Leu Leu Phe Gly Gln Val Lys Pro Ala Asn
 435 440 445

Val Asp Tyr Phe Ile Ser Tyr Asp Glu Ala Arg Asp Gln Leu Lys Thr
 450 455 460

Ala Tyr Ala Leu Ser Arg Gly Gln Asp His Val Asn Ala Leu Ser Leu
 465 470 475 480

Ala Arg Arg Val Ile Met Ser Ile Tyr Lys Gly Leu Leu Val Lys Gln
 485 490 495

Asn Leu Asn Ala Thr Glu Arg Gln Ala Leu Phe Phe Ala Ser Met Ile
 500 505 510

Leu Leu Asn Phe Arg Glu Gly Leu Glu Asn Ser Ser Arg Val Leu Asp
515 520 525

Gly Arg Thr Thr Leu Leu Leu Met Thr Ser Met Cys Thr Ala Ala His
530 535 540

Ala Thr Gln Ala Ala Leu Asn Ile Gln Glu Gly Leu Ala Tyr Leu Asn
545 550 555 560

Pro Ser Lys His Met Phe Thr Ile Pro Asn Val Tyr Ser Pro Cys Met
565 570 575

Gly Ser Leu Arg Thr Asp Leu Thr Glu Glu Ile His Val Met Asn Leu
580 585 590

Leu Ser Ala Ile Pro Thr Arg Pro Gly Leu Asn Glu Val Leu His Thr
595 600 605

Gln Leu Asp Glu Ser Glu Ile Phe Asp Ala Ala Phe Lys Thr Met Met
610 615 620

Ile Phe Thr Thr Trp Thr Ala Lys Asp Leu His Ile Leu His Thr His
625 630 635 640

Val Pro Glu Val Phe Thr Cys Gln Asp Ala Ala Ala Arg Asn Gly Glu
645 650 655

Tyr Val Leu Ile Leu Pro Ala Val Gln Gly His Ser Tyr Val Ile Thr
660 665 670

Arg Asn Lys Pro Gln Arg Gly Leu Val Tyr Ser Leu Ala Asp Val Asp
675 680 685

Val Tyr Asn Pro Ile Ser Val Val Tyr Leu Ser Arg Asp Thr Cys Val
690 695 700

Ser Glu His Gly Val Ile Glu Thr Val Ala Leu Pro His Pro Asp Asn
705 710 715 720

Leu Lys Glu Cys Leu Tyr Cys Gly Ser Val Phe Leu Arg Tyr Leu Thr
725 730 735

Thr Gly Ala Ile Met Asp Ile Ile Ile Ile Asp Ser Lys Asp Thr Glu
740 745 750

Arg Gln Leu Ala Ala Met Gly Asn Ser Thr Ile Pro Pro Phe Asn Pro
755 760 765

Asp Met His Gly Asp Asp Ser Lys Ala Val Leu Leu Phe Pro Asn Gly
770 775 780

Thr Val Val Thr Leu Leu Gly Phe Glu Arg Arg Gln Ala Ile Arg Met
785 790 795 800

Ser Gly Gln Tyr Leu Gly Ala Ser Leu Gly Gly Ala Phe Leu Ala Val
805 810 815

Val Gly Phe Gly Ile Ile Gly Trp Met Leu Cys Gly Asn Ser Arg Leu
820 825 830

Arg Glu Tyr Asn Lys Ile Pro Leu Thr
835 840

<210> 27
<211> 240
<212> FRT
<213> Varicella zoster

<400> 27

Met Asn Pro Pro Gln Ala Arg Val Ser Glu Gln Thr Lys Asp Leu Leu
1 5 10 15

Ser Val Met Val Asn Gln His Pro Glu Glu Asp Ala Lys Val Cys Lys
20 25 30

Ser Ser Asp Asn Ser Pro Leu Tyr Asn Thr Met Val Met Leu Ser Tyr
35 40 45

Gly Gly Asp Thr Asp Leu Leu Leu Ser Ser Ala Cys Thr Arg Thr Ser
50 55 60

Thr Val Asn Arg Ser Ala Phe Thr Gln His Ser Val Phe Tyr Ile Ile
65 70 75 80

Ser Thr Val Leu Ile Gln Pro Ile Cys Cys Ile Phe Phe Phe Phe Tyr
85 90 95

Tyr Lys Ala Thr Arg Cys Met Leu Leu Phe Thr Ala Gly Leu Leu Leu
100 105 110

Thr Ile Leu His His Phe Arg Leu Ile Ile Met Leu Leu Cys Val Tyr

115		120		125
Arg Asn Ile Arg Ser Asp Leu Leu Pro Leu Ser Thr Ser Gln Gln Leu				
130		135		140
Leu Leu Gly Ile Ile Val Val Thr Arg Thr Met Leu Phe Cys Ile Thr				
145		150		155
Ala Tyr Tyr Thr Leu Phe Ile Asp Thr Arg Val Phe Phe Leu Ile Thr				
	165		170	175
Gly His Leu Gln Ser Glu Val Ile Phe Pro Asp Ser Val Ser Lys Ile				
	180		185	190
Leu Pro Val Ser Trp Gly Pro Ser Pro Ala Val Leu Leu Val Met Ala				
	195		200	205
Ala Val Ile Tyr Ala Met Asp Cys Leu Val Asp Thr Val Ser Phe Ile				
	210		215	220
Gly Pro Arg Val Trp Val Arg Val Met Leu Lys Thr Ser Ile Ser Phe				
225		230		235
240				
<210> 28				
<211> 1396				
<212> PRT				
<213> Varicella zoster				
<400> 28				
Met Thr Thr Val Ser Cys Pro Ala Asn Val Ile Thr Thr Thr Glu Ser				
1		5		10
				15
Asp Arg Ile Ala Gly Leu Phe Asn Ile Pro Ala Gly Ile Ile Pro Thr				
	20		25	30
Gly Asn Val Leu Ser Thr Ile Glu Val Cys Ala His Arg Cys Ile Phe				
	35		40	45
Asp Phe Phe Lys Gln Ile Arg Ser Asp Asp Asn Ser Leu Tyr Ser Ala				
	50		55	60
Gln Phe Asp Ile Leu Leu Gly Thr Tyr Cys Asn Thr Leu Asn Phe Val				
65		70		75
				80
Arg Phe Leu Glu Leu Gly Leu Ser Val Ala Cys Ile Cys Thr Lys Phe				
	85		90	95

Pro	Glu	Leu	Ala	Tyr	Val	Arg	Asp	Gly	Val	Ile	Gln	Phe	Glu	Val	Gln	100	105	110	
Gln	Pro	Met	Ile	Ala	Arg	Asp	Gly	Pro	His	Pro	Val	Asp	Gln	Pro	Val	115	120	125	
His	Asn	Tyr	Met	Val	Lys	Arg	Ile	His	Lys	Arg	Ser	Leu	Ser	Ala	Ala	130	135	140	
Phe	Ala	Ile	Ala	Ser	Glu	Ala	Leu	Ser	Leu	Leu	Ser	Asn	Thr	Tyr	Val	145	150	155	160
Asp	Gly	Thr	Glu	Ile	Asp	Ser	Ser	Leu	Arg	Ile	Arg	Ala	Ile	Gln	Gln	165	170	175	
Met	Ala	Arg	Asn	Leu	Arg	Thr	Val	Leu	Asp	Ser	Phe	Glu	Arg	Gly	Thr	180	185	190	
Ala	Asp	Gln	Leu	Leu	Gly	Val	Leu	Leu	Glu	Lys	Ala	Pro	Pro	Leu	Ser	195	200	205	
Leu	Leu	Ser	Pro	Ile	Asn	Lys	Phe	Gln	Pro	Glu	Gly	His	Leu	Asn	Arg	210	215	220	
Val	Ala	Arg	Ala	Ala	Leu	Leu	Ser	Asp	Leu	Lys	Arg	Arg	Val	Cys	Ala	225	230	235	240
Asp	Met	Phe	Phe	Met	Thr	Arg	His	Ala	Arg	Glu	Pro	Arg	Leu	Ile	Ser	245	250	255	
Ala	Tyr	Leu	Ser	Asp	Met	Val	Ser	Cys	Thr	Gln	Pro	Ser	Val	Met	Val	260	265	270	
Ser	Arg	Ile	Thr	His	Thr	Asn	Thr	Arg	Gly	Arg	Gln	Val	Asp	Gly	Val	275	280	285	
Leu	Val	Thr	Thr	Ala	Thr	Leu	Lys	Arg	Gln	Leu	Leu	Gln	Gly	Ile	Leu	290	295	300	
Gln	Ile	Asp	Asp	Thr	Ala	Ala	Asp	Val	Pro	Val	Thr	Tyr	Gly	Glu	Met	305	310	315	320
Val	Leu	Gln	Gly	Thr	Asn	Leu	Val	Thr	Ala	Leu	Val	Met	Gly	Lys	Ala	325	330	335	

Val Arg Gly Met Asp Asp Val Ala Arg His Leu Leu Asp Ile Thr Asp
340 345 350

Pro Asn Thr Leu Asn Ile Pro Ser Ile Pro Pro Gln Ser Asn Ser Asp
355 360 365

Ser Thr Thr Ala Gly Leu Pro Val Asn Ala Arg Val Pro Ala Asp Leu
370 375 380

Val Ile Val Gly Asp Lys Leu Val Phe Leu Glu Ala Leu Glu Arg Arg
385 390 395 400

Val Tyr Gln Ala Thr Arg Val Ala Tyr Pro Leu Ile Gly Asn Ile Asp
405 410 415

Ile Thr Phe Ile Met Pro Met Gly Val Phe Gln Ala Asn Ser Met Asp
420 425 430

Arg Tyr Thr Arg His Ala Gly Asp Phe Ser Thr Val Ser Glu Gln Asp
435 440 445

Pro Arg Gln Phe Pro Pro Gln Gly Ile Phe Phe Tyr Asn Lys Asp Gly
450 455 460

Ile Leu Thr Gln Leu Thr Leu Arg Asp Ala Met Gly Thr Ile Cys His
465 470 475 480

Ser Ser Leu Leu Asp Val Glu Ala Thr Leu Val Ala Leu Arg Gln Gln
485 490 495

His Leu Asp Arg Gln Cys Tyr Phe Gly Val Tyr Val Ala Glu Gly Thr
500 505 510

Glu Asp Thr Leu Asp Val Gln Met Gly Arg Phe Met Glu Thr Trp Ala
515 520 525

Asp Met Met Pro His His Pro His Trp Val Asn Glu His Leu Thr Ile
530 535 540

Leu Gln Phe Ile Ala Pro Ser Asn Pro Arg Leu Arg Phe Glu Leu Asn
545 550 555 560

Pro Ala Phe Asp Phe Phe Val Ala Pro Gly Asp Val Asp Leu Pro Gly
565 570 575

Pro	Gln	Arg	Pro	Pro	Glu	Ala	Met	Pro	Thr	Val	Asn	Ala	Thr	Leu	Arg	580	585	590	
Ile	Ile	Asn	Gly	Asn	Ile	Pro	Val	Pro	Leu	Cys	Pro	Ile	Ser	Phe	Arg	595	600	605	
Asp	Cys	Arg	Gly	Thr	Gln	Leu	Gly	Leu	Gly	Arg	His	Thr	Met	Thr	Pro	610	615	620	
Ala	Thr	Ile	Lys	Ala	Val	Lys	Asp	Thr	Phe	Glu	Asp	Arg	Ala	Tyr	Pro	625	630	635	640
Thr	Ile	Phe	Tyr	Met	Leu	Glu	Ala	Val	Ile	His	Gly	Asn	Glu	Arg	Asn	645	650	655	
Phe	Cys	Ala	Leu	Leu	Arg	Leu	Leu	Thr	Gln	Cys	Ile	Arg	Gly	Tyr	Trp	660	665	670	
Glu	Gln	Ser	His	Arg	Val	Ala	Phe	Val	Asn	Asn	Phe	His	Met	Leu	Met	675	680	685	
Tyr	Ile	Thr	Thr	Tyr	Leu	Gly	Asn	Gly	Glu	Leu	Pro	Glu	Val	Cys	Ile	690	695	700	
Asn	Ile	Tyr	Arg	Asp	Leu	Leu	Gln	His	Val	Arg	Ala	Leu	Arg	Gln	Thr	705	710	715	720
Ile	Thr	Asp	Phe	Thr	Ile	Gln	Gly	Glu	Gly	His	Asn	Gly	Glu	Thr	Ser	725	730	735	
Glu	Ala	Leu	Asn	Asn	Ile	Leu	Thr	Asp	Asp	Thr	Phe	Ile	Ala	Pro	Ile	740	745	750	
Leu	Trp	Asp	Cys	Asp	Ala	Leu	Ile	Tyr	Arg	Asp	Glu	Ala	Ala	Arg	Asp	755	760	765	
Arg	Leu	Pro	Ala	Ile	Arg	Val	Ser	Gly	Arg	Asn	Gly	Tyr	Gln	Ala	Leu	770	775	780	
His	Phe	Val	Asp	Met	Ala	Gly	His	Asn	Phe	Gln	Arg	Arg	Asp	Asn	Val	785	790	795	800
Leu	Ile	His	Gly	Arg	Pro	Val	Arg	Gly	Asp	Thr	Gly	Gln	Gly	Ile	Pro	805	810	815	

Ile Thr Pro His His Asp Arg Glu Trp Gly Ile Leu Ser Lys Ile Tyr
820 825 830

Tyr Tyr Ile Val Ile Pro Ala Phe Ser Arg Gly Ser Cys Cys Thr Met
835 840 845

Gly Val Arg Tyr Asp Arg Leu Tyr Pro Ala Leu Gln Ala Val Ile Val
850 855 860

Pro Glu Ile Pro Ala Asp Glu Glu Ala Pro Thr Thr Pro Glu Asp Pro
865 870 875 880

Arg His Pro Leu His Ala His Gln Leu Val Pro Asn Ser Leu Asn Val
885 890 895

Tyr Phe His Asn Ala His Leu Thr Val Asp Gly Asp Ala Leu Leu Thr
900 905 910

Leu Gln Glu Leu Met Gly Asp Met Ala Glu Arg Thr Thr Ala Ile Leu
915 920 925

Val Ser Ser Ala Pro Asp Ala Gly Ala Ala Thr Ala Thr Thr Arg Asn
930 935 940

Met Arg Ile Tyr Asp Gly Ala Leu Tyr His Gly Leu Ile Met Met Ala
945 950 955 960

Tyr Gln Ala Tyr Asp Glu Thr Ile Ala Thr Gly Thr Phe Phe Tyr Pro
965 970 975

Val Pro Val Asn Pro Leu Phe Ala Cys Pro Glu His Leu Ala Ser Leu
980 985 990

Arg Gly Met Thr Asn Ala Arg Arg Val Leu Ala Lys Met Val Pro Pro
995 1000 1005

Ile Pro Pro Phe Leu Gly Ala Asn His His Ala Thr Ile Arg Gln
1010 1015 1020

Pro Val Ala Tyr His Val Thr His Ser Lys Ser Asp Phe Asn Thr
1025 1030 1035

Leu Thr Tyr Ser Leu Leu Gly Gly Tyr Phe Lys Phe Thr Pro Ile
1040 1045 1050

Ser	Leu	Thr	His	Gln	Leu	Arg	Thr	Gly	Phe	His	Pro	Gly	Ile	Ala
1055						1060					1065			
Phe	Thr	Val	Val	Arg	Gln	Asp	Arg	Phe	Ala	Thr	Glu	Gln	Leu	Leu
1070						1075					1080			
Tyr	Ala	Glu	Arg	Ala	Ser	Glu	Ser	Tyr	Phe	Val	Gly	Gln	Ile	Gln
1085						1090					1095			
Val	His	His	His	Asp	Ala	Ile	Gly	Gly	Val	Asn	Phe	Thr	Leu	Thr
1100						1105					1110			
Gln	Pro	Arg	Ala	His	Val	Asp	Leu	Gly	Val	Gly	Tyr	Thr	Ala	Val
1115						1120					1125			
Cys	Ala	Thr	Ala	Ala	Leu	Arg	Cys	Pro	Leu	Thr	Asp	Met	Gly	Asn
1130						1135					1140			
Thr	Ala	Gln	Asn	Leu	Phe	Phe	Ser	Arg	Gly	Gly	Val	Pro	Met	Leu
1145						1150					1155			
His	Asp	Asn	Val	Thr	Glu	Ser	Leu	Arg	Arg	Ile	Thr	Ala	Ser	Gly
1160						1165					1170			
Gly	Arg	Leu	Asn	Pro	Thr	Glu	Pro	Leu	Pro	Ile	Phe	Gly	Gly	Leu
1175						1180					1185			
Arg	Pro	Ala	Thr	Ser	Ala	Gly	Ile	Ala	Arg	Gly	Gln	Ala	Ser	Val
1190						1195					1200			
Cys	Glu	Phe	Val	Ala	Met	Pro	Val	Ser	Thr	Asp	Leu	Gln	Tyr	Phe
1205						1210					1215			
Arg	Thr	Ala	Cys	Asn	Pro	Arg	Gly	Arg	Ala	Ser	Gly	Met	Leu	Tyr
1220						1225					1230			
Met	Gly	Asp	Arg	Asp	Ala	Asp	Ile	Glu	Ala	Ile	Met	Phe	Asp	His
1235						1240					1245			
Thr	Gln	Ser	Asp	Val	Ala	Tyr	Thr	Asp	Arg	Ala	Thr	Leu	Asn	Pro
1250						1255					1260			
Trp	Ala	Ser	Gln	Lys	His	Ser	Tyr	Gly	Asp	Arg	Leu	Tyr	Asn	Gly
1265						1270					1275			

Thr Tyr Asn Leu Thr Gly Ala Ser Pro Ile Tyr Ser Pro Cys Phe
 1280 1285 1290

Lys Phe Phe Thr Pro Ala Glu Val Asn Thr Asn Cys Asn Thr Leu
 1295 1300 1305

Asp Arg Leu Leu Met Glu Ala Lys Ala Val Ala Ser Gln Ser Ser
 1310 1315 1320

Thr Asp Thr Glu Tyr Gln Phe Lys Arg Pro Pro Gly Ser Thr Glu
 1325 1330 1335

Met Thr Gln Asp Pro Cys Gly Leu Phe Gln Glu Ala Tyr Pro Pro
 1340 1345 1350

Leu Cys Ser Ser Asp Ala Ala Met Leu Arg Thr Ala His Ala Gly
 1355 1360 1365

Glu Thr Gly Ala Asp Glu Val His Leu Ala Gln Tyr Leu Ile Arg
 1370 1375 1380

Asp Ala Ser Pro Leu Arg Gly Cys Leu Pro Leu Pro Arg
 1385 1390 1395

<210> 29
 <211> 316
 <212> PRT
 <213> Varicella zoster

<400> 29

Met Ala Met Pro Phe Glu Ile Glu Val Leu Leu Pro Gly Glu Leu Ser
 1 5 10 15

Pro Ala Glu Thr Ser Ala Leu Gln Lys Cys Glu Gly Lys Ile Ile Thr
 20 25 30

Phe Ser Thr Leu Arg His Arg Ala Ser Leu Val Asp Ile Ala Leu Ser
 35 40 45

Ser Tyr Tyr Ile Asn Gly Ala Pro Pro Asp Thr Leu Ser Leu Leu Glu
 50 55 60

Ala Tyr Arg Met Arg Phe Ala Ala Val Ile Thr Arg Val Ile Pro Gly
 65 70 75 80

Lys Leu Leu Ala His Ala Ile Gly Val Gly Thr Pro Thr Pro Gly Leu
 85 90 95

Phe Ile Gln Asn Thr Ser Pro Val Asp Leu Cys Asn Gly Asp Tyr Ile
 100 105 110

Cys Leu Leu Pro Pro Val Phe Gly Ser Ala Asp Ser Ile Arg Leu Asp
 115 120 125

Ser Val Gly Leu Glu Ile Val Phe Pro Leu Thr Ile Pro Gln Thr Leu
 130 135 140

Met Arg Glu Ile Ile Ala Lys Val Val Ala Arg Ala Val Glu Arg Thr
 145 150 155 160

Ala Ala Gly Ala Gln Ile Leu Pro His Glu Val Leu Arg Gly Ala Asp
 165 170 175

Val Ile Cys Tyr Asn Gly Arg Arg Tyr Glu Leu Glu Thr Asn Leu Gln
 180 185 190

His Arg Asp Gly Ser Asp Ala Ala Ile Arg Thr Leu Val Leu Asn Leu
 195 200 205

Met Phe Ser Ile Asn Glu Gly Cys Leu Leu Leu Ala Leu Ile Pro
 210 215 220

Thr Leu Leu Val Gln Gly Ala His Asp Gly Tyr Val Asn Leu Leu Ile
 225 230 235 240

Gln Thr Ala Asn Cys Val Arg Glu Thr Gly Gln Leu Ile Asn Ile Pro
 245 250 255

Pro Met Pro Arg Ile Gln Asp Gly His Arg Arg Phe Pro Ile Tyr Glu
 260 265 270

Thr Ile Ser Ser Trp Ile Ser Thr Ser Ser Arg Leu Gly Asp Thr Leu
 275 280 285

Gly Thr Arg Ala Ile Leu Arg Val Cys Val Phe Asp Gly Pro Ser Thr
 290 295 300

Val His Pro Gly Asp Arg Thr Ala Val Ile Gln Val
 305 310 315

<210> 30
<211> 676
<212> PRT
<213> Varicella zoster

<400> 30

Met Glu Ala His Leu Ala Asn Glu Thr Lys His Ala Leu Trp His Asn
1 5 10 15

Asp His Thr Lys Gly Leu Leu His Val Val Ile Pro Asn Ala Gly Leu
20 25 30

Ile Ala Ala Gly Ile Asp Pro Ala Leu Leu Ile Leu Lys Lys Pro Gly
35 40 45

Gln Arg Phe Lys Val Glu Val Gln Thr Arg Tyr His Ala Thr Gly Gln
50 55 60

Cys Glu Pro Trp Cys Gln Val Phe Ala Ala Tyr Ile Pro Asp Asn Ala
65 70 75 80

Leu Thr Asn Leu Leu Ile Pro Lys Thr Glu Pro Phe Val Ser His Val
85 90 95

Phe Ser Ala Thr His Asn Ser Gly Gly Leu Ile Leu Ser Leu Pro Val
100 105 110

Tyr Leu Ser Pro Gly Leu Phe Phe Asp Ala Phe Asn Val Val Ala Ile
115 120 125

Arg Ile Asn Thr Gly Asn Arg Lys His Arg Asp Ile Cys Ile Met Tyr
130 135 140

Ala Glu Leu Ile Pro Asn Gly Thr Arg Tyr Phe Ala Asp Gly Gln Arg
145 150 155 160

Val Leu Leu Leu Cys Lys Gln Leu Ile Ala Tyr Ile Arg Cys Thr Pro
165 170 175

Arg Leu Ala Ser Ser Ile Lys Ile Tyr Ala Glu His Met Val Ala Ala
180 185 190

Met Gly Glu Ser His Thr Ser Asn Gly Asp Asn Ile Gly Pro Val Ser
195 200 205

Ser Ile Ile Asp Leu Asp Arg Gln Leu Thr Ser Gly Gly Ile Asp Asp
 210 215 220

Ser Pro Ala Glu Thr Arg Ile Gln Glu Asn Asn Arg Asp Val Leu Glu
 225 230 235 240

Leu Ile Lys Arg Ala Val Asn Ile Val Asn Ser Arg His Pro Val Arg
 245 250 255

Pro Ser Ser Ser Arg Val Ala Ser Gly Leu Leu Gln Ser Ala Lys Gly
 260 265 270

His Gly Ala Gln Thr Ser Asn Thr Asp Pro Ile Asn Asn Gly Ser Phe
 275 280 285

Asp Gly Val Leu Glu Pro Pro Gly Gln Gly Arg Phe Thr Gly Lys Lys
 290 295 300

Asn Asn Ser Ser Ala Ser Ile Pro Pro Leu Gln Asp Val Leu Leu Phe
 305 310 315 320

Thr Pro Ala Ser Thr Glu Pro Gln Ser Leu Met Glu Trp Phe Asp Ile
 325 330 335

Cys Tyr Ala Gln Leu Val Ser Gly Asp Thr Pro Ala Asp Phe Trp Lys
 340 345 350

Arg Arg Pro Leu Ser Ile Val Pro Arg His Tyr Ala Glu Ser Pro Ser
 355 360 365

Pro Leu Ile Val Val Ser Tyr Asn Gly Ser Ser Ala Trp Gly Gly Arg
 370 375 380

Ile Thr Gly Ser Pro Ile Leu Tyr His Ser Ala Gln Ala Ile Ile Asp
 385 390 395 400

Ala Ala Cys Ile Asn Ala Arg Val Asp Asn Pro Gln Ser Leu His Val
 405 410 415

Thr Ala Arg Gln Glu Leu Val Ala Arg Leu Pro Phe Leu Ala Asn Val
 420 425 430

Leu Asn Asn Gln Thr Pro Leu Pro Ala Phe Lys Pro Gly Ala Glu Met
 435 440 445

Phe Leu Asn Gln Val Phe Lys Gln Ala Cys Val Thr Ser Leu Thr Gln
450 455 460

Gly Leu Ile Thr Glu Leu Gln Thr Asn Pro Thr Leu Gln Gln Leu Met
465 470 475 480

Glu Tyr Asp Ile Ala Asp Ser Ser Gln Thr Val Ile Asp Glu Ile Val
485 490 495

Ala Arg Thr Pro Asp Leu Ile Gln Thr Ile Val Ser Val Leu Thr Glu
500 505 510

Met Ser Met Asp Ala Phe Tyr Asn Ser Ser Leu Met Tyr Ala Val Leu
515 520 525

Ala Tyr Leu Ser Ser Val Tyr Thr Arg Pro Gln Gly Gly Gly Tyr Ile
530 535 540

Pro Tyr Leu His Ala Ser Phe Pro Cys Trp Leu Gly Asn Arg Ser Ile
545 550 555 560

Tyr Leu Phe Asp Tyr Tyr Asn Ser Gly Gly Glu Ile Leu Lys Leu Ser
565 570 575

Lys Val Pro Val Pro Val Ala Leu Glu Lys Val Gly Ile Gly Asn Ser
580 585 590

Thr Gln Leu Arg Gly Lys Phe Ile Arg Ser Ala Asp Ile Val Asp Ile
595 600 605

Gly Ile Cys Ser Lys Tyr Leu Pro Gly Gln Cys Tyr Ala Tyr Ile Cys
610 615 620

Leu Gly Phe Asn Gln Gln Leu Gln Ser Ile Leu Val Leu Pro Gly Gly
625 630 635 640

Phe Ala Ala Cys Phe Cys Ile Thr Asp Thr Leu Gln Ala Ala Leu Pro
645 650 655

Ala Ser Leu Ile Gly Pro Ile Leu Asp Arg Phe Cys Phe Ser Ile Pro
660 665 670

Asn Pro His Lys
675

<210> 31
<211> 363
<212> PRT
<213> Varicella zoster

<400> 31

Met Glu Leu Gln Arg Ile Phe Pro Leu Tyr Thr Ala Thr Gly Ala Ala
1 5 10 15

Arg Lys Leu Thr Pro Glu Ala Val Gln Arg Leu Cys Asp Ala Leu Thr
20 25 30

Leu Asp Met Gly Leu Trp Lys Ser Ile Leu Thr Asp Pro Arg Val Lys
35 40 45

Ile Met Arg Ser Thr Ala Phe Ile Thr Leu Arg Ile Ala Pro Phe Ile
50 55 60

Pro Leu Gln Thr Asp Thr Thr Asn Ile Ala Val Val Val Ala Thr Ile
65 70 75 80

Tyr Ile Thr Arg Pro Arg Gln Met Asn Leu Pro Pro Lys Thr Phe His
85 90 95

Val Ile Val Asn Phe Asn Tyr Glu Val Ser Tyr Ala Met Thr Ala Thr
100 105 110

Leu Arg Ile Tyr Pro Val Glu Asn Ile Asp His Val Phe Gly Ala Thr
115 120 125

Phe Lys Asn Pro Ile Ala Tyr Pro Leu Pro Thr Ser Ile Pro Asp Pro
130 135 140

Arg Ala Asp Pro Thr Pro Ala Asp Leu Thr Pro Thr Pro Asn Leu Ser
145 150 155 160

Asn Tyr Leu Gln Pro Pro Arg Leu Pro Lys Asn Pro Tyr Ala Cys Lys
165 170 175

Val Ile Ser Pro Gly Val Trp Trp Ser Asp Glu Arg Arg Arg Leu Tyr
180 185 190

Val Leu Ala Met Glu Pro Asn Leu Ile Gly Leu Cys Pro Ala Gly Trp
195 200 205

His Ala Arg Ile Leu Gly Ser Val Leu Asn Arg Leu Leu Ser His Ala

210	215	220
Asp Gly Cys Asp Glu Cys Asn His Arg Val His Val Gly Ala Leu Tyr		
225	230	235 240
Ala Leu Pro His Val Thr Asn His Ala Glu Gly Cys Val Cys Trp Ala		
	245	250 255
Pro Cys Met Trp Arg Lys Ala Gly Gln Arg Glu Leu Lys Val Glu Val		
	260	265 270
Asp Ile Gly Ala Thr Gln Val Leu Phe Val Asp Val Thr Thr Cys Ile		
	275	280 285
Arg Ile Thr Ser Thr Lys Asn Pro Arg Ile Thr Ala Asn Leu Gly Asp		
	290	295 300
Val Ile Ala Gly Thr Asn Ala Ser Gly Leu Ser Val Pro Val Asn Ser		
305	310	315 320
Ser Gly Trp Gln Leu Tyr Met Phe Gly Glu Thr Leu Ser Arg Ala Ile		
	325	330 335
Ile Asn Gly Cys Gly Leu Leu Gln Arg Ile Cys Phe Pro Glu Thr Gln		
	340	345 350
Arg Leu Ser Gly Glu Pro Glu Pro Thr Thr Thr		
	355	360
<210> 32		
<211> 199		
<212> PRT		
<213> Varicella zoster		
<400> 32		
Met Ser Gly His Thr Pro Thr Tyr Ala Ser His Arg Arg Asn Arg Val		
1	5	10 15
Lys Leu Val Glu Ala His Asn Arg Ala Gly Leu Phe Lys Glu Arg Thr		
	20	25 30
Leu Asp Leu Ile Arg Gly Gly Ala Ser Val Gln Asp Pro Ala Phe Val		
	35	40 45
Tyr Ala Phe Thr Ala Ala Lys Glu Ala Cys Ala Asp Leu Asn Asn Gln		
50	55	60

Leu Arg Ser Ala Ala Arg Ile Ala Ser Val Glu Gln Lys Ile Arg Asp
65 70 75 80

Ile Gln Ser Lys Val Glu Glu Gln Thr Ser Ile Gln Gln Ile Leu Asn
85 90 95

Thr Asn Arg Arg Tyr Ile Ala Pro Asp Phe Ile Arg Gly Leu Asp Lys
100 105 110

Thr Glu Asp Asp Asn Thr Asp Asn Ile Asp Arg Leu Glu Asp Ala Val
115 120 125

Gly Pro Asn Ile Glu His Glu Asn His Thr Trp Phe Gly Glu Asp Asp
130 135 140

Glu Ala Leu Leu Thr Gln Trp Met Leu Thr Thr His Pro Pro Thr Ser
145 150 155 160

Lys Tyr Leu Gln Leu Gln Asp Leu Cys Val Pro Thr Thr Ile Pro Thr
165 170 175

Asp Met Asn Gln Met Gln Pro Gln Pro Ile Ser Lys Asn Glu Asn Pro
180 185 190

Pro Thr Pro His Thr Asp Val
195

<210> 33
<211> 551
<212> PRT
<213> Varicella zoster

<400> 33

Met Ala Arg Ser Gly Leu Asp Arg Ile Asp Ile Ser Pro Gln Pro Ala
1 5 10 15

Lys Lys Ile Ala Arg Val Gly Gly Leu Gln His Pro Phe Val Lys Thr
20 25 30

Asp Ile Asn Thr Ile Asn Val Glu His His Phe Ile Asp Thr Leu Gln
35 40 45

Lys Thr Ser Pro Asn Met Asp Cys Arg Gly Met Thr Ala Gly Ile Phe
50 55 60

Ile	Arg	Leu	Ser	His	Met	Tyr	Lys	Ile	Leu	Thr	Thr	Leu	Glu	Ser	Pro	65	70	75	80
Asn	Asp	Val	Thr	Tyr	Thr	Thr	Pro	Gly	Ser	Thr	Asn	Ala	Leu	Phe	Phe	85	90	95	
Lys	Thr	Ser	Thr	Gln	Pro	Gln	Glu	Pro	Arg	Pro	Glu	Glu	Leu	Ala	Ser	100	105	110	
Lys	Leu	Thr	Gln	Asp	Asp	Ile	Lys	Arg	Ile	Leu	Leu	Thr	Ile	Glu	Ser	115	120	125	
Glu	Thr	Arg	Gly	Gln	Gly	Asp	Asn	Ala	Ile	Trp	Thr	Leu	Leu	Arg	Arg	130	135	140	
Asn	Leu	Ile	Thr	Ala	Ser	Thr	Leu	Lys	Trp	Ser	Val	Ser	Gly	Pro	Val	145	150	155	160
Ile	Pro	Pro	Gln	Trp	Phe	Tyr	His	His	Asn	Thr	Thr	Asp	Thr	Tyr	Gly	165	170	175	
Asp	Ala	Ala	Ala	Met	Ala	Phe	Gly	Lys	Thr	Asn	Glu	Pro	Ala	Ala	Arg	180	185	190	
Ala	Ile	Val	Glu	Ala	Leu	Phe	Ile	Asp	Pro	Ala	Asp	Ile	Arg	Thr	Pro	195	200	205	
Asp	His	Leu	Thr	Pro	Glu	Ala	Thr	Thr	Lys	Phe	Phe	Asn	Phe	Asp	Met	210	215	220	
Leu	Asn	Thr	Lys	Ser	Pro	Ser	Leu	Leu	Val	Gly	Thr	Pro	Arg	Ile	Gly	225	230	235	240
Thr	Tyr	Glu	Cys	Gly	Leu	Leu	Ile	Asp	Val	Arg	Thr	Gly	Leu	Ile	Gly	245	250	255	
Ala	Ser	Leu	Asp	Val	Leu	Val	Cys	Asp	Arg	Asp	Pro	Leu	Thr	Gly	Thr	260	265	270	
Leu	Asn	Pro	His	Pro	Ala	Glu	Thr	Asp	Ile	Ser	Phe	Phe	Glu	Ile	Lys	275	280	285	
Cys	Arg	Ala	Lys	Tyr	Leu	Phe	Asp	Pro	Asp	Asp	Lys	Asn	Asn	Pro	Leu	290	295	300	

Gly Arg Thr Tyr Thr Thr Leu Ile Asn Arg Pro Thr Met Ala Asn Leu
305 310 315 320

Arg Asp Phe Leu Tyr Thr Ile Lys Asn Pro Cys Val Ser Phe Phe Gly
325 330 335

Pro Ser Ala Asn Pro Ser Thr Arg Glu Ala Leu Ile Thr Asp His Val
340 345 350

Glu Trp Lys Arg Leu Gly Phe Lys Gly Gly Arg Ala Leu Thr Glu Leu
355 360 365

Asp Ala His His Leu Gly Leu Asn Arg Thr Ile Ser Ser Arg Val Trp
370 375 380

Val Phe Asn Asp Pro Asp Ile Gln Lys Gly Thr Ile Thr Thr Ile Ala
385 390 395 400

Trp Ala Thr Gly Asp Thr Ala Leu Gln Ile Pro Val Phe Ala Asn Pro
405 410 415

Arg His Ala Asn Phe Lys Gln Ile Ala Val Gln Thr Tyr Val Leu Ser
420 425 430

Gly Tyr Phe Pro Ala Leu Lys Leu Arg Pro Phe Leu Val Thr Phe Ile
435 440 445

Gly Arg Val Arg Arg Pro His Glu Val Gly Val Pro Leu Arg Val Asp
450 455 460

Thr Gln Ala Ala Ala Ile Tyr Glu Tyr Asn Trp Pro Thr Ile Pro Pro
465 470 475 480

His Cys Ala Val Pro Val Ile Ala Val Leu Thr Pro Ile Glu Val Asp
485 490 495

Val Pro Arg Val Thr Gln Ile Leu Lys Asp Thr Gly Asn Asn Ala Ile
500 505 510

Thr Ser Ala Leu Arg Ser Leu Arg Trp Asp Asn Leu His Pro Ala Val
515 520 525

Glu Glu Glu Ser Val Asp Cys Ala Asn Gly Thr Thr Ser Leu Leu Arg
530 535 540

Ala Thr Glu Lys Pro Leu Leu
545 550

<210> 34
<211> 835
<212> PRT
<213> Varicella zoster

<400> 34

Met Ser Pro Asn Thr Gly Glu Ser Asn Ala Ala Val Tyr Ala Ser Ser
1 5 10 15

Thr Gln Leu Ala Arg Ala Leu Tyr Gly Gly Asp Leu Val Ser Trp Ile
20 25 30

Lys His Thr His Pro Gly Ile Ser Leu Glu Leu Gln Leu Asp Val Pro
35 40 45

Val Lys Leu Ile Lys Pro Gly Met Ser Gln Thr Arg Pro Val Thr Val
50 55 60

Val Arg Ala Pro Met Gly Ser Gly Lys Thr Thr Ala Leu Leu Glu Trp
65 70 75 80

Leu Gln His Ala Leu Lys Ala Asp Ile Ser Val Leu Val Val Ser Cys
85 90 95

Arg Arg Ser Phe Thr Gln Thr Leu Ile Gln Arg Phe Asn Asp Ala Gly
100 105 110

Leu Ser Gly Phe Val Thr Tyr Leu Thr Ser Glu Thr Tyr Ile Met Gly
115 120 125

Phe Lys Arg Leu Ile Val Gln Leu Glu Ser Leu His Arg Val Ser Ser
130 135 140

Glu Ala Ile Asp Ser Tyr Asp Val Leu Ile Leu Asp Glu Val Met Ser
145 150 155 160

Val Ile Gly Gln Leu Tyr Ser Pro Thr Met Arg Arg Leu Ser Ala Val
165 170 175

Asp Ser Leu Leu Tyr Arg Leu Leu Asn Arg Cys Ser Gln Ile Ile Ala
180 185 190

Met	Asp	Ala	Thr	Val	Asn	Ser	Gln	Phe	Ile	Asp	Leu	Ile	Ser	Gly	Leu	195	200	205	
Arg	Gly	Asp	Glu	Asn	Ile	His	Thr	Ile	Val	Cys	Thr	Tyr	Ala	Gly	Val	210	215	220	
Gly	Phe	Ser	Gly	Arg	Thr	Cys	Thr	Ile	Leu	Arg	Asp	Met	Gly	Ile	Asp	225	230	235	240
Thr	Leu	Val	Arg	Val	Ile	Lys	Arg	Ser	Pro	Glu	His	Glu	Asp	Val	Arg	245	250	255	
Thr	Ile	His	Gln	Leu	Arg	Gly	Thr	Phe	Phe	Asp	Glu	Leu	Ala	Leu	Arg	260	265	270	
Leu	Gln	Cys	Gly	His	Asn	Ile	Cys	Ile	Phe	Ser	Ser	Thr	Leu	Ser	Phe	275	280	285	
Ser	Glu	Leu	Val	Ala	Gln	Phe	Cys	Ala	Ile	Phe	Thr	Asp	Ser	Ile	Leu	290	295	300	
Ile	Leu	Asn	Ser	Thr	Arg	Pro	Leu	Cys	Asn	Val	Asn	Glu	Trp	Lys	His	305	310	315	320
Phe	Arg	Val	Leu	Val	Tyr	Thr	Thr	Val	Val	Thr	Val	Gly	Leu	Ser	Phe	325	330	335	
Asp	Met	Ala	His	Phe	His	Ser	Met	Phe	Ala	Tyr	Ile	Lys	Pro	Met	Ser	340	345	350	
Tyr	Gly	Pro	Asp	Met	Val	Ser	Val	Tyr	Gln	Ser	Leu	Gly	Arg	Val	Arg	355	360	365	
Leu	Leu	Leu	Leu	Asn	Glu	Val	Leu	Met	Tyr	Val	Asp	Gly	Ser	Arg	Thr	370	375	380	
Arg	Cys	Gly	Pro	Leu	Phe	Ser	Pro	Met	Leu	Leu	Asn	Phe	Thr	Ile	Ala	385	390	395	400
Asn	Lys	Phe	Gln	Trp	Phe	Pro	Thr	His	Thr	Gln	Ile	Thr	Asn	Lys	Leu	405	410	415	
Cys	Cys	Ala	Phe	Arg	Gln	Arg	Cys	Ala	Asn	Ala	Phe	Thr	Arg	Ser	Asn	420	425	430	

Thr	His	Leu	Phe	Ser	Arg	Phe	Lys	Tyr	Lys	His	Leu	Phe	Glu	Arg	Cys
		435					440					445			
Ser	Leu	Trp	Ser	Leu	Ala	Asp	Ser	Ile	Asn	Ile	Leu	Gln	Thr	Leu	Leu
	450					455					460				
Ala	Ser	Asn	Gln	Ile	Leu	Val	Val	Leu	Asp	Gly	Met	Gly	Pro	Ile	Thr
465					470					475					480
Asp	Val	Ser	Pro	Val	Gln	Phe	Cys	Ala	Phe	Ile	His	Asp	Leu	Arg	His
				485					490					495	
Ser	Ala	Asn	Ala	Val	Ala	Ser	Cys	Met	Arg	Ser	Leu	Arg	Gln	Asp	Asn
			500					505					510		
Asp	Ser	Cys	Leu	Thr	Asp	Phe	Gly	Pro	Ser	Gly	Phe	Met	Ala	Asp	Asn
		515					520					525			
Ile	Thr	Ala	Phe	Met	Glu	Lys	Tyr	Leu	Met	Glu	Ser	Ile	Asn	Thr	Glu
	530					535					540				
Glu	Gln	Ile	Lys	Val	Phe	Lys	Ala	Leu	Ala	Cys	Pro	Ile	Glu	Gln	Pro
545					550					555					560
Arg	Leu	Val	Asn	Thr	Ala	Ile	Leu	Gly	Ala	Cys	Ile	Arg	Ile	Pro	Glu
				565					570					575	
Ala	Leu	Glu	Ala	Phe	Asp	Val	Phe	Gln	Lys	Ile	Tyr	Thr	His	Tyr	Ala
			580					585					590		
Ser	Gly	Trp	Phe	Pro	Val	Leu	Asp	Lys	Thr	Gly	Glu	Phe	Ser	Ile	Ala
		595					600					605			
Thr	Ile	Thr	Thr	Ala	Pro	Asn	Leu	Thr	Thr	His	Trp	Glu	Leu	Phe	Arg
	610					615					620				
Arg	Cys	Ala	Tyr	Ile	Ala	Lys	Thr	Leu	Lys	Trp	Asn	Pro	Ser	Thr	Glu
625					630					635					640
Gly	Cys	Val	Thr	Gln	Val	Leu	Asp	Thr	Asp	Ile	Asn	Thr	Leu	Phe	Asn
				645					650					655	
Gln	His	Gly	Asp	Ser	Leu	Ala	Gln	Leu	Ile	Phe	Glu	Val	Met	Arg	Cys
			660					665					670		

Asn Val Thr Asp Ala Lys Ile Ile Leu Asn Arg Pro Val Trp Arg Thr
675 680 685

Thr Gly Phe Leu Asp Gly Cys His Asn Gln Cys Phe Arg Pro Ile Pro
690 695 700

Thr Lys His Glu Tyr Asn Ile Ala Leu Phe Arg Leu Ile Trp Glu Gln
705 710 715 720

Leu Phe Gly Ala Arg Val Thr Lys Ser Thr Gln Thr Phe Pro Gly Ser
725 730 735

Thr Arg Val Lys Asn Leu Lys Lys Lys Asp Leu Glu Thr Leu Leu Asp
740 745 750

Ser Ile Asn Val Asp Arg Ser Ala Cys Arg Thr Tyr Arg Gln Leu Tyr
755 760 765

Asn Leu Leu Met Ser Gln Arg His Ser Phe Ser Gln Gln Arg Tyr Lys
770 775 780

Ile Thr Ala Pro Ala Trp Ala Arg His Val Tyr Phe Gln Ala His Gln
785 790 795 800

Met His Leu Ala Pro His Ala Glu Ala Met Leu Gln Leu Ala Leu Ser
805 810 815

Glu Leu Ser Pro Gly Ser Trp Pro Arg Ile Asn Gly Ala Val Asn Phe
820 825 830

Glu Ser Leu
835

<210> 35
<211> 771
<212> PRT
<213> Varicella zoster

<400> 35

Met Asp Ala Thr Gln Ile Thr Leu Val Arg Glu Ser Gly His Ile Cys
1 5 10 15

Ala Ala Ser Ile Tyr Thr Ser Trp Thr Gln Ser Gly Gln Leu Thr Gln
20 25 30

Asn Gly Leu Ser Val Leu Tyr Tyr Leu Leu Cys Lys Asn Ser Cys Gly

35	40	45															
Lys	Tyr	Val	Pro	Lys	Phe	Ala	Glu	Ile	Thr	Val	Gln	Gln	Glu	Asp	Leu		
50						55					60						
Cys	Arg	Tyr	Ser	Arg	His	Gly	Gly	Ser	Val	Ser	Ala	Ala	Thr	Phe	Ala		
65					70					75					80		
Ser	Ile	Cys	Arg	Ala	Ala	Ser	Ser	Ala	Ala	Leu	Asp	Ala	Trp	Pro	Leu		
				85					90					95			
Glu	Pro	Leu	Gly	Asn	Ala	Asp	Thr	Trp	Arg	Cys	Leu	His	Gly	Thr	Ala		
			100					105					110				
Leu	Ala	Thr	Leu	Arg	Arg	Val	Leu	Gly	Phe	Lys	Ser	Phe	Tyr	Ser	Pro		
		115					120					125					
Val	Thr	Phe	Glu	Thr	Asp	Thr	Asn	Thr	Gly	Leu	Leu	Leu	Lys	Thr	Ile		
	130					135					140						
Pro	Asp	Glu	His	Ala	Leu	Asn	Asn	Asp	Asn	Thr	Pro	Ser	Thr	Gly	Val		
145					150					155					160		
Leu	Arg	Ala	Asn	Phe	Pro	Val	Ala	Ile	Asp	Val	Ser	Ala	Val	Ser	Ala		
				165					170					175			
Cys	Asn	Ala	His	Thr	Gln	Gly	Thr	Ser	Leu	Ala	Tyr	Ala	Arg	Leu	Thr		
			180					185					190				
Ala	Leu	Lys	Ser	Asn	Gly	Asp	Thr	Gln	Gln	Gln	Thr	Pro	Leu	Asp	Val		
		195					200					205					
Glu	Val	Ile	Thr	Pro	Lys	Ala	Tyr	Ile	Arg	Arg	Lys	Tyr	Lys	Ser	Thr		
	210					215					220						
Phe	Ser	Pro	Pro	Ile	Glu	Arg	Glu	Gly	Gln	Thr	Ser	Asp	Leu	Phe	Asn		
225					230					235					240		
Leu	Glu	Glu	Arg	Arg	Leu	Val	Leu	Ser	Gly	Asn	Arg	Ala	Ile	Val	Val		
				245					250					255			
Arg	Val	Leu	Leu	Pro	Cys	Tyr	Phe	Asp	Cys	Leu	Thr	Thr	Asp	Ser	Thr		
			260					265					270				
Val	Thr	Ser	Ser	Leu	Ser	Ile	Leu	Ala	Thr	Tyr	Arg	Leu	Trp	Tyr	Ala		

275							280									285
Ala	Ala	Phe	Gly	Lys	Pro	Gly	Val	Val	Arg	Pro	Ile	Phe	Ala	Tyr	Leu	
290						295					300					
Gly	Pro	Glu	Leu	Asn	Pro	Lys	Gly	Glu	Asp	Arg	Asp	Tyr	Phe	Cys	Thr	
305					310					315					320	
Val	Gly	Phe	Pro	Gly	Trp	Thr	Thr	Leu	Arg	Thr	Gln	Thr	Pro	Ala	Val	
				325					330					335		
Glu	Ser	Ile	Arg	Thr	Ala	Thr	Glu	Met	Tyr	Met	Glu	Thr	Asp	Gly	Leu	
			340					345					350			
Trp	Pro	Val	Thr	Gly	Ile	Gln	Ala	Phe	His	Tyr	Leu	Ala	Pro	Trp	Gly	
		355					360					365				
Gln	His	Pro	Pro	Leu	Pro	Pro	Arg	Val	Gln	Asp	Leu	Ile	Gly	Gln	Ile	
	370					375					380					
Pro	Gln	Asp	Thr	Gly	His	Ala	Asp	Ala	Thr	Val	Asn	Trp	Asp	Ala	Gly	
385					390					395					400	
Arg	Ile	Ser	Thr	Val	Phe	Lys	Gln	Pro	Val	Gln	Leu	Gln	Asp	Arg	Trp	
				405					410					415		
Met	Ala	Lys	Phe	Asp	Phe	Ser	Ala	Phe	Phe	Pro	Thr	Ile	Tyr	Cys	Ala	
		420						425					430			
Met	Phe	Pro	Met	His	Phe	Arg	Leu	Gly	Lys	Ile	Val	Leu	Ala	Arg	Met	
		435					440					445				
Arg	Arg	Gly	Met	Gly	Cys	Leu	Lys	Pro	Ala	Leu	Val	Ser	Phe	Phe	Gly	
	450					455					460					
Gly	Leu	Arg	His	Ile	Leu	Pro	Ser	Ile	Tyr	Lys	Ala	Ile	Ile	Phe	Ile	
465					470					475					480	
Ala	Asn	Glu	Ile	Ser	Leu	Cys	Val	Glu	Gln	Thr	Ala	Leu	Glu	Gln	Gly	
				485					490					495		
Phe	Ala	Ile	Cys	Thr	Tyr	Ile	Lys	Asp	Gly	Phe	Trp	Gly	Ile	Phe	Thr	
			500					505					510			
Asp	Leu	His	Thr	Arg	Asn	Val	Cys	Ser	Asp	Gln	Ala	Arg	Cys	Ser	Ala	

515						520						525			
Leu	Asn	Leu	Ala	Ala	Thr	Cys	Glu	Arg	Ala	Val	Thr	Gly	Leu	Leu	Arg
530						535						540			
Ile	Gln	Leu	Gly	Leu	Asn	Phe	Thr	Pro	Ala	Met	Glu	Pro	Val	Leu	Arg
545					550					555					560
Val	Glu	Gly	Val	Tyr	Thr	His	Ala	Phe	Thr	Trp	Cys	Thr	Thr	Gly	Ser
				565					570					575	
Trp	Leu	Trp	Asn	Leu	Gln	Thr	Asn	Thr	Pro	Pro	Asp	Leu	Val	Gly	Val
			580					585					590		
Pro	Trp	Arg	Ser	Gln	Ala	Ala	Arg	Asp	Leu	Lys	Glu	Arg	Leu	Ser	Gly
		595					600					605			
Leu	Leu	Cys	Thr	Ala	Thr	Lys	Ile	Arg	Glu	Arg	Ile	Gln	Glu	Asn	Cys
610						615					620				
Ile	Trp	Asp	His	Val	Leu	Tyr	Asp	Ile	Trp	Ala	Gly	Gln	Val	Val	Glu
625					630					635					640
Ala	Ala	Arg	Lys	Thr	Tyr	Val	Asp	Phe	Phe	Glu	His	Val	Phe	Asp	Arg
				645					650					655	
Arg	Tyr	Thr	Pro	Val	Tyr	Trp	Ser	Leu	Gln	Glu	Gln	Asn	Ser	Glu	Thr
			660					665					670		
Lys	Ala	Ile	Pro	Ala	Ser	Tyr	Leu	Thr	Tyr	Gly	His	Met	Gln	Asp	Lys
		675					680					685			
Asp	Tyr	Lys	Pro	Arg	Gln	Ile	Ile	Met	Val	Arg	Asn	Pro	Asn	Pro	His
	690					695					700				
Gly	Pro	Pro	Thr	Val	Val	Tyr	Trp	Glu	Leu	Leu	Pro	Ser	Cys	Ala	Cys
705					710					715					720
Ile	Pro	Pro	Ile	Asp	Cys	Ala	Ala	His	Leu	Lys	Pro	Leu	Ile	His	Thr
				725					730					735	
Phe	Val	Thr	Ile	Ile	Asn	His	Leu	Leu	Asp	Ala	His	Asn	Asp	Phe	Ser
			740					745					750		
Ser	Pro	Ser	Leu	Lys	Phe	Thr	Asp	Asp	Pro	Leu	Ala	Ser	Tyr	Asn	Phe

755

760

765

Leu Phe Leu
770

<210> 36
<211> 881
<212> PRT
<213> Varicella zoster

<400> 36

Met Lys Arg Ser Ile Ser Val Asp Ser Ser Ser Pro Lys Asn Val Phe
1 5 10 15

Asn Pro Glu Thr Pro Asn Gly Phe Asp Asp Ser Val Tyr Leu Asn Phe
20 25 30

Thr Ser Met His Ser Ile Gln Pro Ile Leu Ser Arg Ile Arg Glu Leu
35 40 45

Ala Ala Ile Thr Ile Pro Lys Glu Arg Val Pro Arg Leu Cys Trp Phe
50 55 60

Lys Gln Leu Leu Glu Leu Gln Ala Pro Pro Glu Met Gln Arg Asn Glu
65 70 75 80

Leu Pro Phe Ser Val Tyr Leu Ile Ser Gly Asn Ala Gly Ser Gly Lys
85 90 95

Ser Thr Cys Ile Gln Thr Leu Asn Glu Ala Ile Asp Cys Ile Ile Thr
100 105 110

Gly Ser Thr Arg Val Ala Ala Gln Asn Val His Ala Lys Leu Ser Thr
115 120 125

Ala Tyr Ala Ser Arg Pro Ile Asn Thr Ile Phe His Glu Phe Gly Phe
130 135 140

Arg Gly Asn His Ile Gln Ala Gln Leu Gly Arg Tyr Ala Tyr Asn Trp
145 150 155 160

Thr Thr Thr Pro Pro Ser Ile Glu Asp Leu Gln Lys Arg Asp Ile Val
165 170 175

Tyr Tyr Trp Glu Val Leu Ile Asp Ile Thr Lys Arg Val Phe Gln Met
180 185 190

Gly Asp Asp Gly Arg Gly Gly Thr Ser Thr Phe Lys Thr Leu Trp Ala
195 200 205

Ile Glu Arg Leu Leu Asn Lys Pro Thr Gly Ser Met Ser Gly Thr Ala
210 215 220

Phe Ile Ala Cys Gly Ser Leu Pro Ala Phe Thr Arg Ser Asn Val Ile
225 230 235 240

Val Ile Asp Glu Ala Gly Leu Leu Gly Arg His Ile Leu Thr Ala Val
245 250 255

Val Tyr Cys Trp Trp Leu Leu Asn Ala Ile Tyr Gln Ser Pro Gln Tyr
260 265 270

Ile Asn Gly Arg Lys Pro Val Ile Val Cys Val Gly Ser Pro Thr Gln
275 280 285

Thr Asp Ser Leu Glu Ser His Phe Gln His Asp Met Gln Arg Ser His
290 295 300

Val Thr Pro Ser Glu Asn Ile Leu Thr Tyr Ile Ile Cys Asn Gln Thr
305 310 315 320

Leu Arg Gln Tyr Thr Asn Ile Ser His Asn Trp Ala Ile Phe Ile Asn
325 330 335

Asn Lys Arg Cys Gln Glu Asp Asp Phe Gly Asn Leu Leu Lys Thr Leu
340 345 350

Glu Tyr Gly Leu Pro Ile Thr Glu Ala His Ala Arg Leu Val Asp Thr
355 360 365

Phe Val Val Pro Ala Ser Tyr Ile Asn Asn Pro Ala Asn Leu Pro Gly
370 375 380

Trp Thr Arg Leu Tyr Ser Ser His Lys Glu Val Ser Ala Tyr Met Ser
385 390 395 400

Lys Leu His Ala His Leu Lys Leu Ser Lys Asn Asp His Phe Ser Val
405 410 415

Phe Ala Leu Pro Thr Tyr Thr Phe Ile Arg Leu Thr Ala Phe Asp Glu
420 425 430

Tyr Arg Lys Leu Thr Gly Gln Pro Gly Leu Ser Val Glu His Trp Ile
435 440 445

Arg Ala Asn Ser Gly Arg Leu His Asn Tyr Ser Gln Ser Arg Asp His
450 455 460

Asp Met Gly Thr Val Lys Tyr Glu Thr His Ser Asn Arg Asp Leu Ile
465 470 475 480

Val Ala Arg Thr Asp Ile Thr Tyr Val Leu Asn Ser Leu Val Val Val
485 490 495

Thr Thr Arg Leu Arg Lys Leu Val Ile Gly Phe Ser Gly Thr Phe Gln
500 505 510

Ser Phe Ala Lys Val Leu Arg Asp Asp Ser Phe Val Lys Ala Arg Gly
515 520 525

Glu Thr Ser Ile Glu Tyr Ala Tyr Arg Phe Leu Ser Asn Leu Ile Phe
530 535 540

Gly Gly Leu Ile Asn Phe Tyr Asn Phe Leu Leu Asn Lys Asn Leu His
545 550 555 560

Pro Asp Lys Val Ser Leu Ala Tyr Lys Arg Leu Ala Ala Leu Thr Leu
565 570 575

Glu Leu Leu Ser Gly Thr Asn Lys Ala Pro Leu His Glu Ala Ala Val
580 585 590

Asn Gly Ala Gly Ala Gly Ile Asp Cys Asp Gly Ala Ala Thr Ser Ala
595 600 605

Asp Lys Ala Phe Cys Phe Thr Lys Ala Pro Glu Ser Lys Val Thr Ala
610 615 620

Ser Ile Pro Glu Asp Pro Asp Asp Val Ile Phe Thr Ala Leu Asn Asp
625 630 635 640

Glu Val Ile Asp Leu Val Tyr Cys Gln Tyr Glu Phe Ser Tyr Pro Lys
645 650 655

Ser Ser Asn Glu Val His Ala Gln Phe Leu Leu Met Lys Ala Ile Tyr
660 665 670

Asp Gly Arg Tyr Ala Ile Leu Ala Glu Leu Phe Glu Ser Ser Phe Thr
675 680 685

Thr Ala Pro Phe Ser Ala Tyr Val Asp Asn Val Asn Phe Asn Gly Ser
690 695 700

Glu Leu Leu Ile Gly Asn Val Arg Gly Gly Leu Leu Ser Leu Ala Leu
705 710 715 720

Gln Thr Asp Thr Tyr Thr Leu Leu Gly Tyr Thr Phe Ala Pro Val Pro
725 730 735

Val Phe Val Glu Glu Leu Thr Arg Lys Lys Leu Tyr Arg Glu Thr Thr
740 745 750

Glu Met Leu Tyr Ala Leu His Val Pro Leu Met Val Leu Gln Asp Gln
755 760 765

His Gly Phe Val Ser Ile Val Asn Ala Asn Val Cys Glu Phe Thr Glu
770 775 780

Ser Ile Glu Asp Ala Glu Leu Ala Met Ala Thr Thr Val Asp Tyr Gly
785 790 795 800

Leu Ser Ser Lys Leu Ala Met Thr Ile Ala Arg Ser Gln Gly Leu Ser
805 810 815

Leu Glu Lys Val Ala Ile Cys Phe Thr Ala Asp Lys Leu Arg Leu Asn
820 825 830

Ser Val Tyr Val Ala Met Ser Arg Thr Val Ser Ser Arg Phe Leu Lys
835 840 845

Met Asn Leu Asn Pro Leu Arg Glu Arg Tyr Glu Lys Ser Ala Glu Ile
850 855 860

Ser Asp His Ile Leu Ala Ala Leu Arg Asp Pro Asn Val His Val Val
865 870 875 880

Tyr

<210> 37
<211> 278

<212> PRT

<213> Varicella zoster

<400> 37

Met Phe Cys Thr Ser Pro Ala Thr Arg Gly Asp Ser Ser Glu Ser Lys
1 5 10 15

Pro Gly Ala Ser Val Asp Val Asn Gly Lys Met Glu Tyr Gly Ser Ala
20 25 30

Pro Gly Pro Leu Asn Gly Arg Asp Thr Ser Arg Gly Pro Gly Ala Phe
35 40 45

Cys Thr Pro Gly Trp Glu Ile His Pro Ala Arg Leu Val Glu Asp Ile
50 55 60

Asn Arg Val Phe Leu Cys Ile Ala Gln Ser Ser Gly Arg Val Thr Arg
65 70 75 80

Asp Ser Arg Arg Leu Arg Arg Ile Cys Leu Asp Phe Tyr Leu Met Gly
85 90 95

Arg Thr Arg Gln Arg Pro Thr Leu Ala Cys Trp Glu Glu Leu Leu Gln
100 105 110

Leu Gln Pro Thr Gln Thr Gln Cys Leu Arg Ala Thr Leu Met Glu Val
115 120 125

Ser His Arg Pro Pro Arg Gly Glu Asp Gly Phe Ile Glu Ala Pro Asn
130 135 140

Val Pro Leu His Arg Ser Ala Leu Glu Cys Asp Val Ser Asp Asp Gly
145 150 155 160

Gly Glu Asp Asp Ser Asp Asp Asp Gly Ser Thr Pro Ser Asp Val Ile
165 170 175

Glu Phe Arg Asp Ser Asp Ala Glu Ser Ser Asp Gly Glu Asp Phe Ile
180 185 190

Val Glu Glu Glu Ser Glu Glu Ser Thr Asp Ser Cys Glu Pro Asp Gly
195 200 205

Val Pro Gly Asp Cys Tyr Arg Asp Gly Asp Gly Cys Asn Thr Pro Ser
210 215 220

Pro Lys Arg Pro Gln Arg Ala Ile Glu Arg Tyr Ala Gly Ala Glu Thr
225 230 235 240

Ala Glu Tyr Thr Ala Ala Lys Ala Leu Thr Ala Leu Gly Glu Gly Gly
245 250 255

Val Asp Trp Lys Arg Arg Arg His Glu Ala Pro Arg Arg His Asp Ile
260 265 270

Pro Pro Pro His Gly Val
275

<210> 38
<211> 180
<212> PRT
<213> Varicella zoster

<400> 38

Met Asn Leu Cys Gly Ser Arg Gly Glu His Pro Gly Gly Glu Tyr Ala
1 5 10 15

Gly Leu Tyr Cys Thr Arg His Asp Thr Pro Ala His Gln Ala Leu Met
20 25 30

Asn Asp Ala Glu Arg Tyr Phe Ala Ala Ala Leu Cys Ala Ile Ser Thr
35 40 45

Glu Ala Tyr Glu Ala Phe Ile His Ser Pro Ser Glu Arg Pro Cys Ala
50 55 60

Ser Leu Trp Gly Arg Ala Lys Asp Ala Phe Gly Arg Met Cys Gly Glu
65 70 75 80

Leu Ala Ala Asp Arg Gln Arg Pro Pro Ser Val Pro Pro Ile Arg Arg
85 90 95

Ala Val Leu Ser Leu Leu Arg Glu Gln Cys Met Pro Asp Pro Gln Ser
100 105 110

His Leu Glu Leu Ser Glu Arg Leu Ile Leu Met Ala Tyr Trp Cys Cys
115 120 125

Leu Gly His Ala Gly Leu Pro Thr Ile Gly Leu Ser Pro Asp Asn Lys
130 135 140

Cys Ile Arg Ala Glu Leu Tyr Asp Arg Pro Gly Gly Ile Cys His Arg
145 150 155 160

Leu Phe Asp Ala Tyr Leu Gly Cys Gly Ser Leu Gly Val Pro Arg Thr
165 170 175

Tyr Glu Arg Ser
180

<210> 39
<211> 393
<212> PRT
<213> Varicella zoster

<400> 39

Met Asn Asp Val Asp Ala Thr Asp Thr Phe Val Gly Gln Gly Lys Phe
1 5 10 15

Arg Gly Ala Ile Ser Thr Ser Pro Ser His Ile Met Gln Thr Cys Gly
20 25 30

Phe Ile Gln Gln Met Phe Pro Val Glu Met Ser Pro Gly Ile Glu Ser
35 40 45

Glu Asp Asp Pro Asn Tyr Asp Val Asn Met Asp Ile Gln Ser Phe Asn
50 55 60

Ile Phe Asp Gly Val His Glu Thr Glu Ala Glu Ala Ser Val Ala Leu
65 70 75 80

Cys Ala Glu Ala Arg Val Gly Ile Asn Lys Ala Gly Phe Val Ile Leu
85 90 95

Lys Thr Phe Thr Pro Gly Ala Glu Gly Phe Ala Phe Ala Cys Met Asp
100 105 110

Ser Lys Thr Cys Glu His Val Val Ile Lys Ala Gly Gln Arg Gln Gly
115 120 125

Thr Ala Thr Glu Ala Thr Val Leu Arg Ala Leu Thr His Pro Ser Val
130 135 140

Val Gln Leu Lys Gly Thr Phe Thr Tyr Asn Lys Met Thr Cys Leu Ile
145 150 155 160

Leu Pro Arg Tyr Arg Thr Asp Leu Tyr Cys Tyr Leu Ala Ala Lys Arg

165								170				175			
Asn	Leu	Pro	Ile	Cys	Asp	Ile	Leu	Ala	Ile	Gln	Arg	Ser	Val	Leu	Arg
			180							185				190	
Ala	Leu	Gln	Tyr	Leu	His	Asn	Asn	Ser	Ile	Ile	His	Arg	Asp	Ile	Lys
		195					200					205			
Ser	Glu	Asn	Ile	Phe	Ile	Asn	His	Pro	Gly	Asp	Val	Cys	Val	Gly	Asp
	210					215					220				
Phe	Gly	Ala	Ala	Cys	Phe	Pro	Val	Asp	Ile	Asn	Ala	Asn	Arg	Tyr	Tyr
225					230					235				240	
Gly	Trp	Ala	Gly	Thr	Ile	Ala	Thr	Asn	Ser	Pro	Glu	Leu	Leu	Ala	Arg
				245					250					255	
Asp	Pro	Tyr	Gly	Pro	Ala	Val	Asp	Ile	Trp	Ser	Ala	Gly	Ile	Val	Leu
			260						265				270		
Phe	Glu	Met	Ala	Thr	Gly	Gln	Asn	Ser	Leu	Phe	Glu	Arg	Asp	Gly	Leu
		275					280					285			
Asp	Gly	Asn	Cys	Asp	Ser	Glu	Arg	Gln	Ile	Lys	Leu	Ile	Ile	Arg	Arg
	290					295					300				
Ser	Gly	Thr	His	Pro	Asn	Glu	Phe	Pro	Ile	Asn	Pro	Thr	Ser	Asn	Leu
305					310					315					320
Arg	Arg	Gln	Tyr	Ile	Gly	Leu	Ala	Lys	Arg	Ser	Ser	Arg	Lys	Pro	Gly
				325					330					335	
Ser	Arg	Pro	Leu	Trp	Thr	Asn	Leu	Tyr	Glu	Leu	Pro	Ile	Asp	Leu	Glu
			340					345					350		
Tyr	Leu	Ile	Cys	Lys	Met	Leu	Ser	Phe	Asp	Ala	Arg	His	Arg	Pro	Ser
		355					360					365			
Ala	Glu	Val	Leu	Leu	Asn	His	Ser	Val	Phe	Gln	Thr	Leu	Pro	Asp	Pro
		370				375					380				
Tyr	Pro	Asn	Pro	Met	Glu	Val	Gly	Asp							
385					390										

<211> 354
 <212> PRT
 <213> Varicella zoster
 <400> 40

Met Phe Leu Ile Gln Cys Leu Ile Ser Ala Val Ile Phe Tyr Ile Gln
 1 5 10 15

Val Thr Asn Ala Leu Ile Phe Lys Gly Asp His Val Ser Leu Gln Val
 20 25 30

Asn Ser Ser Leu Thr Ser Ile Leu Ile Pro Met Gln Asn Asp Asn Tyr
 35 40 45

Thr Glu Ile Lys Gly Gln Leu Val Phe Ile Gly Glu Gln Leu Pro Thr
 50 55 60

Gly Thr Asn Tyr Ser Gly Thr Leu Glu Leu Leu Tyr Ala Asp Thr Val
 65 70 75 80

Ala Phe Cys Phe Arg Ser Val Gln Val Ile Arg Tyr Asp Gly Cys Pro
 85 90 95

Arg Ile Arg Thr Ser Ala Phe Ile Ser Cys Arg Tyr Lys His Ser Trp
 100 105 110

His Tyr Gly Asn Ser Thr Asp Arg Ile Ser Thr Glu Pro Asp Ala Gly
 115 120 125

Val Met Leu Lys Ile Thr Lys Pro Gly Ile Asn Asp Ala Gly Val Tyr
 130 135 140

Val Leu Leu Val Arg Leu Asp His Ser Arg Ser Thr Asp Gly Phe Ile
 145 150 155 160

Leu Gly Val Asn Val Tyr Thr Ala Gly Ser His His Asn Ile His Gly
 165 170 175

Val Ile Tyr Thr Ser Pro Ser Leu Gln Asn Gly Tyr Ser Thr Arg Ala
 180 185 190

Leu Phe Gln Gln Ala Arg Leu Cys Asp Leu Pro Ala Thr Pro Lys Gly
 195 200 205

Ser Gly Thr Ser Leu Phe Gln His Met Leu Asp Leu Arg Ala Gly Lys
 210 215 220

Ser Leu Glu Asp Asn Pro Trp Leu His Glu Asp Val Val Thr Thr Glu
 225 230 235 240

Thr Lys Ser Val Val Lys Glu Gly Ile Glu Asn His Val Tyr Pro Thr
 245 250 255

Asp Met Ser Thr Leu Pro Glu Lys Ser Leu Asn Asp Pro Pro Glu Asn
 260 265 270

Leu Leu Ile Ile Ile Pro Ile Val Ala Ser Val Met Ile Leu Thr Ala
 275 280 285

Met Val Ile Val Ile Val Ile Ser Val Lys Arg Arg Arg Ile Lys Lys
 290 295 300

His Pro Ile Tyr Arg Pro Asn Thr Lys Thr Arg Arg Gly Ile Gln Asn
 305 310 315 320

Ala Thr Pro Glu Ser Asp Val Met Leu Glu Ala Ala Ile Ala Gln Leu
 325 330 335

Ala Thr Ile Arg Glu Glu Ser Pro Pro His Ser Val Val Asn Pro Phe
 340 345 350

Val Lys

<210> 41
 <211> 623
 <212> PRT
 <213> Varicella zoster

<400> 41

Met Gly Thr Val Asn Lys Pro Val Val Gly Val Leu Met Gly Phe Gly
 1 5 10 15

Ile Ile Thr Gly Thr Leu Arg Ile Thr Asn Pro Val Arg Ala Ser Val
 20 25 30

Leu Arg Tyr Asp Asp Phe His Thr Asp Glu Asp Lys Leu Asp Thr Asn
 35 40 45

Ser Val Tyr Glu Pro Tyr Tyr His Ser Asp His Ala Glu Ser Ser Trp
 50 55 60

Val	Asn	Arg	Gly	Glu	Ser	Ser	Arg	Lys	Ala	Tyr	Asp	His	Asn	Ser	Pro	
65					70					75					80	
Tyr	Ile	Trp	Pro	Arg	Asn	Asp	Tyr	Asp	Gly	Phe	Leu	Glu	Asn	Ala	His	
				85					90					95		
Glu	His	His	Gly	Val	Tyr	Asn	Gln	Gly	Arg	Gly	Ile	Asp	Ser	Gly	Glu	
			100					105					110			
Arg	Leu	Met	Gln	Pro	Thr	Gln	Met	Ser	Ala	Gln	Glu	Asp	Leu	Gly	Asp	
		115					120					125				
Asp	Thr	Gly	Ile	His	Val	Ile	Pro	Thr	Leu	Asn	Gly	Asp	Asp	Arg	His	
	130					135					140					
Lys	Ile	Val	Asn	Val	Asp	Gln	Arg	Gln	Tyr	Gly	Asp	Val	Phe	Lys	Gly	
145					150					155					160	
Asp	Leu	Asn	Pro	Lys	Pro	Gln	Gly	Gln	Arg	Leu	Ile	Glu	Val	Ser	Val	
				165					170						175	
Glu	Glu	Asn	His	Pro	Phe	Thr	Leu	Arg	Ala	Pro	Ile	Gln	Arg	Ile	Tyr	
			180					185					190			
Gly	Val	Arg	Tyr	Thr	Glu	Thr	Trp	Ser	Phe	Leu	Pro	Ser	Leu	Thr	Cys	
		195					200					205				
Thr	Gly	Asp	Ala	Ala	Pro	Ala	Ile	Gln	His	Ile	Cys	Leu	Lys	His	Thr	
	210					215					220					
Thr	Cys	Phe	Gln	Asp	Val	Val	Val	Asp	Val	Asp	Cys	Ala	Glu	Asn	Thr	
225					230					235					240	
Lys	Glu	Asp	Gln	Leu	Ala	Glu	Ile	Ser	Tyr	Arg	Phe	Gln	Gly	Lys	Lys	
				245					250					255		
Glu	Ala	Asp	Gln	Pro	Trp	Ile	Val	Val	Asn	Thr	Ser	Thr	Leu	Phe	Asp	
			260					265					270			
Glu	Leu	Glu	Leu	Asp	Pro	Pro	Glu	Ile	Glu	Pro	Gly	Val	Leu	Lys	Val	
		275					280					285				
Leu	Arg	Thr	Glu	Lys	Gln	Tyr	Leu	Gly	Val	Tyr	Ile	Trp	Asn	Met	Arg	
	290					295					300					

Gly Ser Asp Gly Thr Ser Thr Tyr Ala Thr Phe Leu Val Thr Trp Lys
305 310 315 320

Gly Asp Glu Lys Thr Arg Asn Pro Thr Pro Ala Val Thr Pro Gln Pro
325 330 335

Arg Gly Ala Glu Phe His Met Trp Asn Tyr His Ser His Val Phe Ser
340 345 350

Val Gly Asp Thr Phe Ser Leu Ala Met His Leu Gln Tyr Lys Ile His
355 360 365

Glu Ala Pro Phe Asp Leu Leu Leu Glu Trp Leu Tyr Val Pro Ile Asp
370 375 380

Pro Thr Cys Gln Pro Met Arg Leu Tyr Ser Thr Cys Leu Tyr His Pro
385 390 395 400

Asn Ala Pro Gln Cys Leu Ser His Met Asn Ser Gly Cys Thr Phe Thr
405 410 415

Ser Pro His Leu Ala Gln Arg Val Ala Ser Thr Val Tyr Gln Asn Cys
420 425 430

Glu His Ala Asp Asn Tyr Thr Ala Tyr Cys Leu Gly Ile Ser His Met
435 440 445

Glu Pro Ser Phe Gly Leu Ile Leu His Asp Gly Gly Thr Thr Leu Lys
450 455 460

Phe Val Asp Thr Pro Glu Ser Leu Ser Gly Leu Tyr Val Phe Val Val
465 470 475 480

Tyr Phe Asn Gly His Val Glu Ala Val Ala Tyr Thr Val Val Ser Thr
485 490 495

Val Asp His Phe Val Asn Ala Ile Glu Glu Arg Gly Phe Pro Pro Thr
500 505 510

Ala Gly Gln Pro Pro Ala Thr Thr Lys Pro Lys Glu Ile Thr Pro Val
515 520 525

Asn Pro Gly Thr Ser Pro Leu Leu Arg Tyr Ala Ala Trp Thr Gly Gly
530 535 540

Leu Ala Ala Val Val Leu Leu Cys Leu Val Ile Phe Leu Ile Cys Thr
545 550 555 560

Ala Lys Arg Met Arg Val Lys Ala Tyr Arg Val Asp Lys Ser Pro Tyr
565 570 575

Asn Gln Ser Met Tyr Tyr Ala Gly Leu Pro Val Asp Asp Phe Glu Asp
580 585 590

Ser Glu Ser Thr Asp Thr Glu Glu Glu Phe Gly Asn Ala Ile Gly Gly
595 600 605

Ser His Gly Gly Ser Ser Tyr Thr Val Tyr Ile Asp Lys Thr Arg
610 615 620

<210> 42
<211> 1310
<212> PRT
<213> Varicella zoster

<400> 42

Met Asp Thr Pro Pro Met Gln Arg Ser Thr Pro Gln Arg Ala Gly Ser
1 5 10 15

Pro Asp Thr Leu Glu Leu Met Asp Leu Leu Asp Ala Ala Ala Ala Ala
20 25 30

Ala Glu His Arg Ala Arg Val Val Thr Ser Ser Gln Pro Asp Asp Leu
35 40 45

Leu Phe Gly Glu Asn Gly Val Met Val Gly Arg Glu His Glu Ile Val
50 55 60

Ser Ile Pro Ser Val Ser Gly Leu Gln Pro Glu Pro Arg Thr Glu Asp
65 70 75 80

Val Gly Glu Glu Leu Thr Gln Asp Asp Tyr Val Cys Glu Asp Gly Gln
85 90 95

Asp Leu Met Gly Ser Pro Val Ile Pro Leu Ala Glu Val Phe His Thr
100 105 110

Arg Phe Ser Glu Ala Gly Ala Arg Glu Pro Thr Gly Ala Asp Arg Ser
115 120 125

Leu	Glu	Thr	Val	Ser	Leu	Gly	Thr	Lys	Leu	Ala	Arg	Ser	Pro	Lys	Pro		
130						135					140						
Pro	Met	Asn	Asp	Gly	Glu	Thr	Gly	Arg	Gly	Thr	Thr	Pro	Pro	Phe	Pro		
145					150					155					160		
Gln	Ala	Phe	Ser	Pro	Val	Ser	Pro	Ala	Ser	Pro	Val	Gly	Asp	Ala	Ala		
				165					170					175			
Gly	Asn	Asp	Gln	Arg	Glu	Asp	Gln	Arg	Ser	Ile	Pro	Arg	Gln	Thr	Thr		
			180					185					190				
Arg	Gly	Asn	Ser	Pro	Gly	Leu	Pro	Ser	Val	Val	His	Arg	Asp	Arg	Gln		
		195					200					205					
Thr	Gln	Ser	Ile	Ser	Gly	Lys	Lys	Pro	Gly	Asp	Glu	Gln	Ala	Gly	His		
	210					215					220						
Ala	His	Ala	Ser	Gly	Asp	Gly	Val	Val	Leu	Gln	Lys	Thr	Gln	Arg	Pro		
225					230					235					240		
Ala	Gln	Gly	Lys	Ser	Pro	Lys	Lys	Lys	Thr	Leu	Lys	Val	Lys	Val	Pro		
				245					250					255			
Leu	Pro	Ala	Arg	Lys	Pro	Gly	Gly	Pro	Val	Pro	Gly	Pro	Val	Glu	Gln		
			260					265					270				
Leu	Tyr	His	Val	Leu	Ser	Asp	Ser	Val	Pro	Ala	Lys	Gly	Ala	Lys	Ala		
	275						280					285					
Asp	Leu	Pro	Phe	Glu	Thr	Asp	Asp	Thr	Arg	Pro	Arg	Lys	His	Asp	Ala		
	290					295					300						
Arg	Gly	Ile	Thr	Pro	Arg	Val	Pro	Gly	Arg	Ser	Ser	Gly	Gly	Lys	Pro		
305					310					315					320		
Arg	Ala	Phe	Leu	Ala	Leu	Pro	Gly	Arg	Ser	His	Ala	Pro	Asp	Pro	Ile		
				325					330					335			
Glu	Asp	Asp	Ser	Pro	Val	Glu	Lys	Lys	Pro	Lys	Ser	Arg	Glu	Phe	Val		
			340					345					350				
Ser	Ser	Ser	Ser	Ser	Ser	Ser	Ser	Trp	Gly	Ser	Ser	Ser	Glu	Asp	Glu		
		355					360					365					

Asp Asp Glu Pro Arg Arg Val Ser Val Gly Ser Glu Thr Thr Gly Ser
370 375 380

Arg Ser Gly Arg Glu His Ala Pro Ser Pro Ser Asn Ser Asp Asp Ser
385 390 395 400

Asp Ser Asn Asp Gly Gly Ser Thr Lys Gln Asn Ile Gln Pro Gly Tyr
405 410 415

Arg Ser Ile Ser Gly Pro Asp Pro Arg Ile Arg Lys Thr Lys Arg Leu
420 425 430

Ala Gly Glu Pro Gly Arg Gln Arg Gln Lys Ser Phe Ser Leu Pro Arg
435 440 445

Ser Arg Thr Pro Ile Ile Pro Pro Val Ser Gly Pro Leu Met Met Pro
450 455 460

Asp Gly Ser Pro Trp Pro Gly Ser Ala Pro Leu Pro Ser Asn Arg Val
465 470 475 480

Arg Phe Gly Pro Ser Gly Glu Thr Arg Glu Gly His Trp Glu Asp Glu
485 490 495

Ala Val Arg Ala Ala Arg Ala Arg Tyr Glu Ala Ser Thr Glu Pro Val
500 505 510

Pro Leu Tyr Val Pro Glu Leu Gly Asp Pro Ala Arg Gln Tyr Arg Ala
515 520 525

Leu Ile Asn Leu Ile Tyr Cys Pro Asp Arg Asp Pro Ile Ala Trp Leu
530 535 540

Gln Asn Pro Lys Leu Thr Gly Val Asn Ser Ala Leu Asn Gln Phe Tyr
545 550 555 560

Gln Lys Leu Leu Pro Pro Gly Arg Ala Gly Thr Ala Val Thr Gly Ser
565 570 575

Val Ala Ser Pro Val Pro His Val Gly Glu Ala Met Ala Thr Gly Glu
580 585 590

Ala Leu Trp Ala Leu Pro His Ala Ala Ala Ala Val Ala Met Ser Arg
595 600 605

Arg Tyr Asp Arg Ala Gln Lys His Phe Ile Leu Gln Ser Leu Arg Arg
 610 615 620

Ala Phe Ala Ser Met Ala Tyr Pro Glu Ala Thr Gly Ser Ser Pro Ala
 625 630 635 640

Ala Arg Ile Ser Arg Gly His Pro Ser Pro Thr Thr Pro Ala Thr Gln
 645 650 655

Ala Pro Asp Pro Gln Pro Ser Ala Ala Ala Arg Ser Leu Ser Val Cys
 660 665 670

Pro Pro Asp Asp Arg Leu Arg Thr Pro Arg Lys Arg Lys Ser Gln Pro
 675 680 685

Val Glu Ser Arg Ser Leu Leu Asp Lys Ile Arg Glu Thr Pro Val Ala
 690 695 700

Asp Ala Arg Val Ala Asp Asp His Val Val Ser Lys Ala Lys Arg Arg
 705 710 715 720

Val Ser Glu Pro Val Thr Ile Thr Ser Gly Pro Val Val Asp Pro Pro
 725 730 735

Ala Val Ile Thr Met Pro Leu Asp Gly Pro Ala Pro Asn Gly Gly Phe
 740 745 750

Arg Arg Ile Pro Arg Gly Ala Leu His Thr Pro Val Pro Ser Asp Gln
 755 760 765

Ala Arg Lys Ala Tyr Cys Thr Pro Glu Thr Ile Ala Arg Leu Val Asp
 770 775 780

Asp Pro Leu Phe Pro Thr Ala Trp Arg Pro Ala Leu Ser Phe Asp Pro
 785 790 795 800

Gly Ala Leu Ala Glu Ile Ala Ala Arg Arg Pro Gly Gly Gly Asp Arg
 805 810 815

Arg Phe Gly Pro Pro Ser Gly Val Glu Ala Leu Arg Arg Arg Cys Ala
 820 825 830

Trp Met Arg Gln Ile Pro Asp Pro Glu Asp Val Arg Leu Leu Ile Ile
 835 840 845

Tyr Asp Pro Leu Pro Gly Glu Asp Ile Asn Gly Pro Leu Glu Ser Thr
850 855 860

Leu Ala Thr Asp Pro Gly Pro Ser Trp Ser Pro Ser Arg Gly Gly Leu
865 870 875 880

Ser Val Val Leu Ala Ala Leu Ser Asn Arg Leu Cys Leu Pro Ser Thr
885 890 895

His Ala Trp Ala Gly Asn Trp Thr Gly Pro Pro Asp Val Ser Ala Leu
900 905 910

Asn Ala Arg Gly Val Leu Leu Leu Ser Thr Arg Asp Leu Ala Phe Ala
915 920 925

Gly Ala Val Glu Tyr Leu Gly Ser Arg Leu Ala Ser Ala Arg Arg Arg
930 935 940

Leu Leu Val Leu Asp Ala Val Ala Leu Glu Arg Trp Pro Arg Asp Gly
945 950 955 960

Pro Ala Leu Ser Gln Tyr His Val Tyr Val Arg Ala Pro Ala Arg Pro
965 970 975

Asp Ala Gln Ala Val Val Arg Trp Pro Asp Ser Ala Val Thr Glu Gly
980 985 990

Leu Ala Arg Ala Val Phe Ala Ser Ser Arg Thr Phe Gly Pro Ala Ser
995 1000 1005

Phe Ala Arg Ile Glu Thr Ala Phe Ala Asn Leu Tyr Pro Gly Glu
1010 1015 1020

Gln Pro Leu Cys Leu Cys Arg Gly Gly Asn Val Ala Tyr Thr Val
1025 1030 1035

Cys Thr Arg Ala Gly Pro Lys Thr Arg Val Pro Leu Ser Pro Arg
1040 1045 1050

Glu Tyr Arg Gln Tyr Val Leu Pro Gly Phe Asp Gly Cys Lys Asp
1055 1060 1065

Leu Ala Arg Gln Ser Arg Gly Leu Gly Leu Gly Ala Ala Asp Phe
1070 1075 1080

Val	Asp	Glu	Ala	Ala	His	Ser	His	Arg	Ala	Ala	Asn	Arg	Trp	Gly
1085						1090					1095			
Leu	Gly	Ala	Ala	Leu	Arg	Pro	Val	Phe	Leu	Pro	Glu	Gly	Arg	Arg
1100						1105					1110			
Pro	Gly	Ala	Ala	Gly	Pro	Glu	Ala	Gly	Asp	Val	Pro	Thr	Trp	Ala
1115						1120					1125			
Arg	Val	Phe	Cys	Arg	His	Ala	Leu	Leu	Glu	Pro	Asp	Pro	Ala	Ala
1130						1135					1140			
Glu	Pro	Leu	Val	Leu	Pro	Pro	Val	Ala	Gly	Arg	Ser	Val	Ala	Leu
1145						1150					1155			
Tyr	Ala	Ser	Ala	Asp	Glu	Ala	Arg	Asn	Ala	Leu	Pro	Pro	Ile	Pro
1160						1165					1170			
Arg	Val	Met	Trp	Pro	Pro	Gly	Phe	Gly	Ala	Ala	Glu	Thr	Val	Leu
1175						1180					1185			
Glu	Gly	Ser	Asp	Gly	Thr	Arg	Phe	Val	Phe	Gly	His	His	Gly	Gly
1190						1195					1200			
Ser	Glu	Arg	Pro	Ser	Glu	Thr	Gln	Ala	Gly	Arg	Gln	Arg	Arg	Thr
1205						1210					1215			
Ala	Asp	Asp	Arg	Glu	His	Ala	Leu	Glu	Leu	Asp	Asp	Trp	Glu	Val
1220						1225					1230			
Gly	Cys	Glu	Asp	Ala	Trp	Asp	Ser	Glu	Glu	Gly	Gly	Gly	Asp	Asp
1235						1240					1245			
Gly	Asp	Ala	Pro	Gly	Ser	Ser	Phe	Gly	Val	Ser	Ile	Val	Ser	Val
1250						1255					1260			
Ala	Pro	Gly	Val	Leu	Arg	Asp	Arg	Arg	Val	Gly	Leu	Arg	Pro	Ala
1265						1270					1275			
Val	Lys	Val	Glu	Leu	Leu	Ser	Ser	Ser	Ser	Ser	Ser	Glu	Asp	Glu
1280						1285					1290			
Asp	Asp	Val	Trp	Gly	Gly	Arg	Gly	Gly	Arg	Ser	Pro	Pro	Gln	Ser
1295						1300					1305			

Arg Gly
1310

<210> 43
<211> 1002
<212> DNA
<213> Varicella zoster

<220>
<221> CDS
<222> (1)..(1002)

<400> 43
atg cat tta aag cct acc aga ttt ttc cac gca aac caa ccg cca atg 48
Met His Leu Lys Pro Thr Arg Phe Phe His Ala Asn Gln Pro Pro Met
1 5 10 15
ccg cat tca tac gag atg gag gac tta tgc ttc gac gac atg caa tat 96
Pro His Ser Tyr Glu Met Glu Asp Leu Cys Phe Asp Asp Met Gln Tyr
20 25 30
cgc tgg tct ccc tcg aac aca ccc tat cga agt atg tct agg cga tat 144
Arg Trp Ser Pro Ser Asn Thr Pro Tyr Arg Ser Met Ser Arg Arg Tyr
35 40 45
aaa tcc gta tct cgg agc ggg cct tcg atg cgt gta cgc tcc aga acg 192
Lys Ser Val Ser Arg Ser Gly Pro Ser Met Arg Val Arg Ser Arg Thr
50 55 60
cca tgc cgc cgt caa acc att cga gga aaa ctt atg tca aag gag cgg 240
Pro Cys Arg Arg Gln Thr Ile Arg Gly Lys Leu Met Ser Lys Glu Arg
65 70 75 80
tct gtg tac cgc cat tat ttt aat tac atc gca agg tcc ccc cca gaa 288
Ser Val Tyr Arg His Tyr Phe Asn Tyr Ile Ala Arg Ser Pro Pro Glu
85 90 95
gaa cta gct acc gtt aga ggc tta atc gtg cca att att aag acg acc 336
Glu Leu Ala Thr Val Arg Gly Leu Ile Val Pro Ile Ile Lys Thr Thr
100 105 110
cct gtc acc ctt ccg ttt aac ttg ggt cag aca gtg gcg gat aac tgc 384
Pro Val Thr Leu Pro Phe Asn Leu Gly Gln Thr Val Ala Asp Asn Cys
115 120 125
ctg tcg tta tcc gga atg ggt tat cat tta ggt ctc gga ggt tat tgt 432
Leu Ser Leu Ser Gly Met Gly Tyr His Leu Gly Leu Gly Gly Tyr Cys
130 135 140
ccg aca tgc act gca tct gga gaa ccg cgt cta tgt cga acc gat cgg 480
Pro Thr Cys Thr Ala Ser Gly Glu Pro Arg Leu Cys Arg Thr Asp Arg
145 150 155 160
gcg gct ctg ata cta gca tat gtt cag cag ctt aac aac ata tac gaa 528
Ala Ala Leu Ile Leu Ala Tyr Val Gln Gln Leu Asn Asn Ile Tyr Glu
165 170 175
tat cgt gtg ttt ctt gca tcc att ttg gcg cta tca gac cga gcc aac 576

Tyr	Arg	Val	Phe	Leu	Ala	Ser	Ile	Leu	Ala	Leu	Ser	Asp	Arg	Ala	Asn	
			180					185					190			
atg	caa	gca	gcg	tcg	gct	gaa	ccc	cta	ttg	tcg	agc	gta	ttg	gca	caa	624
Met	Gln	Ala	Ala	Ser	Ala	Glu	Pro	Leu	Leu	Ser	Ser	Val	Leu	Ala	Gln	
		195					200					205				
ccg	gaa	tta	ttt	ttt	atg	tat	cat	att	atg	agg	gag	ggg	ggc	atg	cga	672
Pro	Glu	Leu	Phe	Phe	Met	Tyr	His	Ile	Met	Arg	Glu	Gly	Gly	Met	Arg	
	210					215					220					
gat	ata	cgc	gta	ctt	ttt	tat	cgt	gat	gga	gat	gcc	gga	ggg	ttt	atg	720
Asp	Ile	Arg	Val	Leu	Phe	Tyr	Arg	Asp	Gly	Asp	Ala	Gly	Gly	Phe	Met	
225					230					235					240	
atg	tat	gtt	ata	ttt	ccg	ggg	aaa	tct	gtt	cac	ctc	cat	tac	aga	cta	768
Met	Tyr	Val	Ile	Phe	Pro	Gly	Lys	Ser	Val	His	Leu	His	Tyr	Arg	Leu	
				245					250					255		
atc	gat	cat	ata	cag	gcc	gcg	tgt	cgg	ggg	tat	aaa	ata	gtc	gca	cac	816
Ile	Asp	His	Ile	Gln	Ala	Ala	Cys	Arg	Gly	Tyr	Lys	Ile	Val	Ala	His	
			260					265					270			
gtt	tgg	cag	aca	aca	ttt	tta	ctg	tcg	gta	tgt	cgc	aac	cca	gaa	caa	864
Val	Trp	Gln	Thr	Thr	Phe	Leu	Leu	Ser	Val	Cys	Arg	Asn	Pro	Glu	Gln	
		275					280					285				
caa	aca	gag	act	gtg	gtg	cca	tcg	att	gga	aca	tcg	gac	gtt	tac	tgt	912
Gln	Thr	Glu	Thr	Val	Val	Pro	Ser	Ile	Gly	Thr	Ser	Asp	Val	Tyr	Cys	
	290					295					300					
aaa	atg	tgt	gac	ctt	aac	ttt	gat	gga	gaa	ttg	ctt	ttg	gaa	tac	aaa	960
Lys	Met	Cys	Asp	Leu	Asn	Phe	Asp	Gly	Glu	Leu	Leu	Leu	Glu	Tyr	Lys	
305					310					315					320	
aga	ctc	tac	gca	tta	ttt	gat	gac	ttt	gtt	cct	cct	cgg	tga			1002
Arg	Leu	Tyr	Ala	Leu	Phe	Asp	Asp	Phe	Val	Pro	Pro	Arg				
				325					330							

<210> 44
 <211> 333
 <212> PRT
 <213> Varicella zoster

<400> 44

Met	His	Leu	Lys	Pro	Thr	Arg	Phe	Phe	His	Ala	Asn	Gln	Pro	Pro	Met	
1				5					10					15		

Pro	His	Ser	Tyr	Glu	Met	Glu	Asp	Leu	Cys	Phe	Asp	Asp	Met	Gln	Tyr	
			20					25					30			

Arg	Trp	Ser	Pro	Ser	Asn	Thr	Pro	Tyr	Arg	Ser	Met	Ser	Arg	Arg	Tyr	
		35					40					45				

Lys	Ser	Val	Ser	Arg	Ser	Gly	Pro	Ser	Met	Arg	Val	Arg	Ser	Arg	Thr	
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	--

50						55										60
Pro	Cys	Arg	Arg	Gln	Thr	Ile	Arg	Gly	Lys	Leu	Met	Ser	Lys	Glu	Arg	
65					70					75					80	
Ser	Val	Tyr	Arg	His	Tyr	Phe	Asn	Tyr	Ile	Ala	Arg	Ser	Pro	Pro	Glu	
				85					90					95		
Glu	Leu	Ala	Thr	Val	Arg	Gly	Leu	Ile	Val	Pro	Ile	Ile	Lys	Thr	Thr	
			100					105					110			
Pro	Val	Thr	Leu	Pro	Phe	Asn	Leu	Gly	Gln	Thr	Val	Ala	Asp	Asn	Cys	
		115					120					125				
Leu	Ser	Leu	Ser	Gly	Met	Gly	Tyr	His	Leu	Gly	Leu	Gly	Gly	Tyr	Cys	
	130					135					140					
Pro	Thr	Cys	Thr	Ala	Ser	Gly	Glu	Pro	Arg	Leu	Cys	Arg	Thr	Asp	Arg	
145					150					155					160	
Ala	Ala	Leu	Ile	Leu	Ala	Tyr	Val	Gln	Gln	Leu	Asn	Asn	Ile	Tyr	Glu	
				165					170					175		
Tyr	Arg	Val	Phe	Leu	Ala	Ser	Ile	Leu	Ala	Leu	Ser	Asp	Arg	Ala	Asn	
		180						185					190			
Met	Gln	Ala	Ala	Ser	Ala	Glu	Pro	Leu	Leu	Ser	Ser	Val	Leu	Ala	Gln	
	195						200					205				
Pro	Glu	Leu	Phe	Phe	Met	Tyr	His	Ile	Met	Arg	Glu	Gly	Gly	Met	Arg	
	210					215					220					
Asp	Ile	Arg	Val	Leu	Phe	Tyr	Arg	Asp	Gly	Asp	Ala	Gly	Gly	Phe	Met	
225					230					235					240	
Met	Tyr	Val	Ile	Phe	Pro	Gly	Lys	Ser	Val	His	Leu	His	Tyr	Arg	Leu	
				245					250					255		
Ile	Asp	His	Ile	Gln	Ala	Ala	Cys	Arg	Gly	Tyr	Lys	Ile	Val	Ala	His	
			260					265					270			
Val	Trp	Gln	Thr	Thr	Phe	Leu	Leu	Ser	Val	Cys	Arg	Asn	Pro	Glu	Gln	
		275					280					285				
Gln	Thr	Glu	Thr	Val	Val	Pro	Ser	Ile	Gly	Thr	Ser	Asp	Val	Tyr	Cys	

290

295

300

Lys Met Cys Asp Leu Asn Phe Asp Gly Glu Leu Leu Leu Glu Tyr Lys
 305 310 315 320

Arg Leu Tyr Ala Leu Phe Asp Asp Phe Val Pro Pro Arg
 325 330

<210> 45
 <211> 1533
 <212> DNA
 <213> Varicella zoster

<220>
 <221> CDS
 <222> (1)..(1533)

<400> 45
 atg gat gct gac gac aca ccc ccc aac ctc caa ata tct cca act gca 48
 Met Asp Ala Asp Asp Thr Pro Pro Asn Leu Gln Ile Ser Pro Thr Ala
 1 5 10 15
 gga cct ttg cgt tcc cac cac aat acc gac gga cat gaa cca aat gca 96
 Gly Pro Leu Arg Ser His His Asn Thr Asp Gly His Glu Pro Asn Ala
 20 25 30
 acc gca gcc gat cag caa gaa cga gaa tcc acc aac ccc aca cac gga 144
 Thr Ala Ala Asp Gln Gln Glu Arg Glu Ser Thr Asn Pro Thr His Gly
 35 40 45
 tgt gta aat cat cca tgg gcc aat ccg tca act gca aca tgc atg gaa 192
 Cys Val Asn His Pro Trp Ala Asn Pro Ser Thr Ala Thr Cys Met Glu
 50 55 60
 tca cca gaa cga tca caa cag aca agc tta ttt tta tta aag cac ggc 240
 Ser Pro Glu Arg Ser Gln Gln Thr Ser Leu Phe Leu Leu Lys His Gly
 65 70 75 80
 tta acg aga gat cca ata cat caa cgc gaa agg gtg gac gtt ttt cca 288
 Leu Thr Arg Asp Pro Ile His Gln Arg Glu Arg Val Asp Val Phe Pro
 85 90 95
 caa ttt aac aaa ccc cca tgg gtt ttt aga att tcc aaa tta tcc cgt 336
 Gln Phe Asn Lys Pro Pro Trp Val Phe Arg Ile Ser Lys Leu Ser Arg
 100 105 110
 tta att gta ccc atc ttc acg ctc aat gaa cag tta tgt ttt tct aaa 384
 Leu Ile Val Pro Ile Phe Thr Leu Asn Glu Gln Leu Cys Phe Ser Lys
 115 120 125
 tta cag att cga gat aga ccc agg ttt gcg gga cgg gga acg tat ggg 432
 Leu Gln Ile Arg Asp Arg Pro Arg Phe Ala Gly Arg Gly Thr Tyr Gly
 130 135 140
 cgt gtt cat ata tac cca tcg tca aaa ata gct gta aaa acc atg gac 480
 Arg Val His Ile Tyr Pro Ser Ser Lys Ile Ala Val Lys Thr Met Asp

145	150	155	160	
agt cgt gtt ttt aat aga gag tta att aac gcg att tta gcg agt gag				528
Ser Arg Val Phe Asn Arg Glu Leu Ile Asn Ala Ile Leu Ala Ser Glu	165	170	175	
ggg tct ata cga gca ggg gaa agg cta ggt att tct agc ata gtt tgc				576
Gly Ser Ile Arg Ala Gly Glu Arg Leu Gly Ile Ser Ser Ile Val Cys	180	185	190	
ctt tta ggt ttt tcg tta caa acc aaa cag cta ctg ttt ccg gca tac				624
Leu Leu Gly Phe Ser Leu Gln Thr Lys Gln Leu Leu Phe Pro Ala Tyr	195	200	205	
gac atg gat atg gat gaa tac att gtt cgc ctg tcc aga cgg ttg aca				672
Asp Met Asp Met Asp Glu Tyr Ile Val Arg Leu Ser Arg Arg Leu Thr	210	215	220	
ata cct gat cac ata gac aga aaa att gcc cat gta ttt tta gat ttg				720
Ile Pro Asp His Ile Asp Arg Lys Ile Ala His Val Phe Leu Asp Leu	225	230	235	240
gct caa gcg ttg acg ttt tta aat cga acg tgc ggc ctg acc cac cta				768
Ala Gln Ala Leu Thr Phe Leu Asn Arg Thr Cys Gly Leu Thr His Leu	245	250	255	
gat gtg aaa tgt ggc aat att ttt ctt aac gtc gac aac ttt gcc tcg				816
Asp Val Lys Cys Gly Asn Ile Phe Leu Asn Val Asp Asn Phe Ala Ser	260	265	270	
ttg gaa ata acc aca gca gta atc gga gac tat agc cta gta aca tta				864
Leu Glu Ile Thr Thr Ala Val Ile Gly Asp Tyr Ser Leu Val Thr Leu	275	280	285	
aat acg tat tcc ctt tgt act cga gcg ata ttt gaa gtt gga aat cca				912
Asn Thr Tyr Ser Leu Cys Thr Arg Ala Ile Phe Glu Val Gly Asn Pro	290	295	300	
tcc cac ccg gag cac gta cta cgc gta ccc cgg gat gca tcg cag atg				960
Ser His Pro Glu His Val Leu Arg Val Pro Arg Asp Ala Ser Gln Met	305	310	315	320
tca ttt cgt ttg gtg ttg agt cat gga aca aac caa ccc cct gaa atc				1008
Ser Phe Arg Leu Val Leu Ser His Gly Thr Asn Gln Pro Pro Glu Ile	325	330	335	
ttg ctt gat tat att aat gga acg ggc ctt act aaa tat act gga acc				1056
Leu Leu Asp Tyr Ile Asn Gly Thr Gly Leu Thr Lys Tyr Thr Gly Thr	340	345	350	
ttg ccc caa aga gtt gga ctt gcg att gat ctt tat gca ttg ggc caa				1104
Leu Pro Gln Arg Val Gly Leu Ala Ile Asp Leu Tyr Ala Leu Gly Gln	355	360	365	
gca ctc tta gaa gtt atc ctg cta gga cgt ctt ccc gga caa ctg ccc				1152
Ala Leu Leu Glu Val Ile Leu Leu Gly Arg Leu Pro Gly Gln Leu Pro	370	375	380	
att tca gta cat cgg acc ccg cat tat cac tac tac ggt cat aag tta				1200
Ile Ser Val His Arg Thr Pro His Tyr His Tyr Tyr Gly His Lys Leu				

385		390		395		400	
tca cca gat ttg gcg ctt gat acg ctg gca tat cga tgt gtc ctg gcg							1248
Ser Pro Asp Leu Ala Leu Asp Thr Leu Ala Tyr Arg Cys Val Leu Ala							
	405			410		415	
cca tat ata ctc cca tct gac atc ccc ggg gac tta aat tat aat ccc							1296
Pro Tyr Ile Leu Pro Ser Asp Ile Pro Gly Asp Leu Asn Tyr Asn Pro							
	420			425		430	
ttt ata cac gcc gga gag ctg aac acc cgt att tcc cgg aat tct tta							1344
Phe Ile His Ala Gly Glu Leu Asn Thr Arg Ile Ser Arg Asn Ser Leu							
	435			440		445	
cgc cgg ata ttc cag tgt cac gca gtg cgt tac ggc gta acg cac tca							1392
Arg Arg Ile Phe Gln Cys His Ala Val Arg Tyr Gly Val Thr His Ser							
	450			455		460	
aag ctt ttc gaa ggc ata cgc att ccg gcc tca tta tac cca gcc act							1440
Lys Leu Phe Glu Gly Ile Arg Ile Pro Ala Ser Leu Tyr Pro Ala Thr							
	465			470		475	480
gtt gtt aca tcg ttg ttg tgt cac gat aat tca gaa ata cgc tcg gat							1488
Val Val Thr Ser Leu Leu Cys His Asp Asn Ser Glu Ile Arg Ser Asp							
	485			490		495	
cac cct tta tta tgg cac gat cgg gat tgg ata gga tcg aca taa							1533
His Pro Leu Leu Trp His Asp Arg Asp Trp Ile Gly Ser Thr							
	500			505		510	

<210> 46
 <211> 510
 <212> PRT
 <213> Varicella zoster

<400> 46

Met Asp Ala Asp Asp Thr Pro Pro Asn Leu Gln Ile Ser Pro Thr Ala	
1 5 10 15	

Gly Pro Leu Arg Ser His His Asn Thr Asp Gly His Glu Pro Asn Ala	
20 25 30	

Thr Ala Ala Asp Gln Gln Glu Arg Glu Ser Thr Asn Pro Thr His Gly	
35 40 45	

Cys Val Asn His Pro Trp Ala Asn Pro Ser Thr Ala Thr Cys Met Glu	
50 55 60	

Ser Pro Glu Arg Ser Gln Gln Thr Ser Leu Phe Leu Leu Lys His Gly	
65 70 75 80	

Leu Thr Arg Asp Pro Ile His Gln Arg Glu Arg Val Asp Val Phe Pro	
85 90 95	

Gln Phe Asn Lys Pro Pro Trp Val Phe Arg Ile Ser Lys Leu Ser Arg
 100 105 110

Leu Ile Val Pro Ile Phe Thr Leu Asn Glu Gln Leu Cys Phe Ser Lys
 115 120 125

Leu Gln Ile Arg Asp Arg Pro Arg Phe Ala Gly Arg Gly Thr Tyr Gly
 130 135 140

Arg Val His Ile Tyr Pro Ser Ser Lys Ile Ala Val Lys Thr Met Asp
 145 150 155 160

Ser Arg Val Phe Asn Arg Glu Leu Ile Asn Ala Ile Leu Ala Ser Glu
 165 170 175

Gly Ser Ile Arg Ala Gly Glu Arg Leu Gly Ile Ser Ser Ile Val Cys
 180 185 190

Leu Leu Gly Phe Ser Leu Gln Thr Lys Gln Leu Leu Phe Pro Ala Tyr
 195 200 205

Asp Met Asp Met Asp Glu Tyr Ile Val Arg Leu Ser Arg Arg Leu Thr
 210 215 220

Ile Pro Asp His Ile Asp Arg Lys Ile Ala His Val Phe Leu Asp Leu
 225 230 235 240

Ala Gln Ala Leu Thr Phe Leu Asn Arg Thr Cys Gly Leu Thr His Leu
 245 250 255

Asp Val Lys Cys Gly Asn Ile Phe Leu Asn Val Asp Asn Phe Ala Ser
 260 265 270

Leu Glu Ile Thr Thr Ala Val Ile Gly Asp Tyr Ser Leu Val Thr Leu
 275 280 285

Asn Thr Tyr Ser Leu Cys Thr Arg Ala Ile Phe Glu Val Gly Asn Pro
 290 295 300

Ser His Pro Glu His Val Leu Arg Val Pro Arg Asp Ala Ser Gln Met
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Ser Phe Arg Leu Val Leu Ser His Gly Thr Asn Gln Pro Pro Glu Ile
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Leu Leu Asp Tyr Ile Asn Gly Thr Gly Leu Thr Lys Tyr Thr Gly Thr
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Leu Pro Gln Arg Val Gly Leu Ala Ile Asp Leu Tyr Ala Leu Gly Gln
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Ala Leu Leu Glu Val Ile Leu Leu Gly Arg Leu Pro Gly Gln Leu Pro
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Ile Ser Val His Arg Thr Pro His Tyr His Tyr Tyr Gly His Lys Leu
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Ser Pro Asp Leu Ala Leu Asp Thr Leu Ala Tyr Arg Cys Val Leu Ala
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Pro Tyr Ile Leu Pro Ser Asp Ile Pro Gly Asp Leu Asn Tyr Asn Pro
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Phe Ile His Ala Gly Glu Leu Asn Thr Arg Ile Ser Arg Asn Ser Leu
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Arg Arg Ile Phe Gln Cys His Ala Val Arg Tyr Gly Val Thr His Ser
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Lys Leu Phe Glu Gly Ile Arg Ile Pro Ala Ser Leu Tyr Pro Ala Thr
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Lys Arg Tyr Asn Glu Leu Val Thr Cys Asn Gly Glu Thr Val Ala Leu	
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Asn Ser Glu Phe Phe Glu Asp Phe Asp Phe Asp Glu Asn Val Thr Glu	
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gac gcc gat aaa tcc aca caa cgc cgc cca cga gtg atc gat gta aca	192
Asp Ala Asp Lys Ser Thr Gln Arg Arg Pro Arg Val Ile Asp Val Thr	
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cca aaa cga aaa cct tcg gga aag agc tcc cat tcc aaa tgc gca aaa	240
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Arg	Pro	Asp	Asp	Gln	Thr	Thr	Pro	Thr	Pro	Thr	Pro	His	Gln	Tyr	Thr	
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Pro	Gln	Arg	Ala	Ile	Glu	Arg	Tyr	Ala	Gly	Ala	Glu	Thr	Ala	Glu	Tyr	
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Glu	Arg	Tyr	Phe	Ala	Ala	Ala	Leu	Cys	Ala	Ile	Ser	Thr	Glu	Ala	Tyr	
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Glu	Ala	Phe	Ile	His	Ser	Pro	Ser	Glu	Arg	Pro	Cys	Ala	Ser	Leu	Trp	
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Glu Ala Val Val Thr Pro Arg Ala Gln Pro Asn Asn Thr Thr Ile Thr						
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Ala Ile Gln Pro Ser Arg Ser Ala Glu Lys Cys Tyr Tyr Ser Asp Ser						
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Glu Asn Glu Thr Ala Asp Glu Phe Leu Arg Arg Ile Gly Lys Tyr Gln						
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His Lys Ile Tyr His Arg Lys Lys Phe Cys Tyr Ile Thr Leu Ile Ile						
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Val Phe Val Phe Ala Met Thr Gly Ala Ala Phe Ala Leu Gly Tyr Ile						
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Ile	Ser	Gly	Lys	Lys	Pro	Gly	Asp	Glu	Gln	Ala	Gly	His	Ala	His	Ala	
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Lys	Ser	Pro	Lys	Lys	Lys	Thr	Leu	Lys	Val	Lys	Val	Pro	Leu	Pro	Ala	
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Cys	Phe	Val	Cys	Ile	Arg	Ala	Trp	Thr	Ser	Thr	Ser	Val	Gln	Cys		
1910				1915					1920							

cct Pro 1925	ctc Leu	tgc Cys	cgg Arg	tgt Cys	cca Pro 1930	gtg Val	caa Gln	tcc Ser	atc Ile	ctg Leu 1935	cat His	aag Lys	atc Ile	gta Val	20606
agt Ser 1940	gat Asp	aca Thr	agt Ser	tac Tyr	aag Lys 1945	gaa Glu	tat Tyr	gaa Glu	gtg Val	cac His 1950	cca Pro	tcc Ser	gac Asp	gac Asp	20651
gat Asp 1955	ggg Gly	ttt Phe	tct Ser	gag Glu	cgg Pro 1960	tca Ser	ttt Phe	gaa Glu	gat Asp	tcc Ser 1965	atc Ile	gac Asp	atc Ile	cta Leu	20696
cgg Pro 1970	gga Gly	gat Asp	gtc Val	ata Ile	gat Asp 1975	ctt Leu	ctg Leu	cca Pro	cca Pro	agc Ser 1980	cca Pro	gga Gly	cgg Pro	agt Ser	20741
cgg Arg 1985	gag Glu	tcc Ser	atc Ile	caa Gln	cag Gln 1990	cca Pro	aca Thr	tca Ser	aga Arg	tgg Ser 1995	agt Ser	cgg Arg	gag Glu	ccc Pro	20786
att Ile 2000	caa Gln	tca Ser	cca Pro	aac Asn	cct Pro 2005	ggg Gly	ccc Pro	ctt Leu	caa Gln	tgg Ser 2010	tgg Ser	gct Ala	aga Arg	gag Glu	20831
ccc Pro 2015	aca Thr	gca Ala	gag Glu	tca Ser	cca Pro 2020	agt Ser	gac Asp	tct Ser	caa Gln	cag Gln 2025	gat Asp	tct Ser	ata Ile	caa Gln	20876
cca Pro 2030	cgg Pro	acc Thr	cga Arg	gac Asp	tgg Ser 2035	agc Ser	cct Pro	ggg Gly	gta Val	acc Thr 2040	aaa Lys	aca Thr	tgc Cys	tct Ser	20921
acc Thr 2045	gca Ala	tca Ser	ttt Phe	tta Leu	cgg Arg 2050	aag Lys	gta Val	ttt Phe	ttt Phe	aaa Lys 2055	gac Asp	caa Gln	cct Pro	gct Ala	20966
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cag Gln 2075	caa Gln	ccc Pro	cgg Arg	acc Thr	ggg Gly 2080	ggg Gly	cag Gln	gac Asp	tac Tyr	cgt Arg 2085	gat Asp	cgt Arg	cca Pro	gta Val	21056
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ttt Phe 2105	cga Arg	gco Ala	acg Thr	gat Asp	aga Arg 2110	gga Gly	aca Thr	gag Glu	gga Gly	aac Asn 2115	gcg Ala	aga Arg	ttc Phe	cgg Pro	21146
tgt Cys 2120	tac Tyr	atg Met	caa Gln	cct Pro	tta Leu 2125	ctc Leu	gga Gly	tgg Trp	ctt Leu	gat Asp 2130	gat Asp	caa Gln	ctt Leu	gcg Ala	21191
gaa Glu 2135	ctg Leu	tat Tyr	caa Gln	ccc Pro	gaa Glu 2140	att Ile	gta Val	gag Glu	cct Pro	aca Thr 2145	aaa Lys	atg Met	ttg Leu	ata Ile	21236

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Leu Asn Tyr Ile Gly Ile Tyr Gly Arg Asp Glu Ala Gly Leu Lys	
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Thr Ser Leu Arg Cys Leu Leu His Asp Ser Thr Gly Pro Phe Val	
2165 2170 2175	
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Thr Asn Met Leu Phe Leu Leu Asp Arg Cys Thr Asp Pro Thr Arg	
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cta acc atg caa acc tgg acc tgg aaa gat aca gcc atc caa cta	21416
Leu Thr Met Gln Thr Trp Thr Trp Lys Asp Thr Ala Ile Gln Leu	
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Ile Thr Gly Pro Ile Val Arg Pro Glu Thr Thr Ser Thr Gly Glu	
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Thr Ser Arg Gly Asp Glu Arg Asp Thr Arg Leu Val Asn Thr Pro	
2225 2230 2235	
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Gln Lys Val Arg Leu Phe Ser Val Leu Pro Gly Ile Lys Pro Gly	
2240 2245 2250	
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Ser Ala Arg Gly Ala Lys Arg Arg Leu Phe His Thr Gly Arg Asp	
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Val Lys Arg Cys Leu Thr Ile Asp Leu Thr Ser Glu Ser Asp Ser	
2270 2275 2280	
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Ala Cys Lys Gly Ser Lys Thr Arg Lys Val Ala Ser Pro Gln Gly	
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Glu Ser Asn Thr Pro Ser Thr Ser Gly Ser Thr Ser Gly Ser Leu	
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Lys His Leu Thr Lys Lys Ser Ser Ala Gly Lys Ala Gly Lys Gly	
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Leu Ser Asp Ser	Lys Asp Ile Tyr Val	Leu Ala His Pro Val	Thr	
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Lys Lys Thr Arg	Lys Arg Pro Arg Gly	Leu Pro Leu Gly Val	Lys	
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Leu Ser Asp Glu	Leu Lys Glu Pro Tyr	Ala Lys Gly Ile Phe	Leu	
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Thr Gly Asp Ile	Phe Ala Trp Thr Arg	Phe Cys Gly Pro Gln	Ser	
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His Ala His Gly	Leu Ala Phe Ser Val	Lys Arg Gly Ile Thr	Pro	
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Pro Ser Ser Leu	Lys Asn Ile Phe Ala	Ala Leu Met Glu Ser	Tyr	
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Pro Asn Met Thr	Pro Pro Thr His Gly	Cys Leu Glu Ser Trp	Ala	
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Arg Gln Gly Val	Leu Leu Leu Asn Thr	Thr Leu Thr Val Arg	Arg	
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Gln Arg Val Leu	Gln Arg Leu Cys Glu	Asn Arg Thr Gly Leu	Val	
2570	2575	2580		

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Phe Met Leu Trp Gly Ala His Ala Gln Lys Thr Thr Gln Pro Asn	
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Ser Arg Val Pro Phe Arg Asn Cys Arg His Phe Val Gln Ala Asn	
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Trp	Asp	Pro	Arg	His	Lys	Ala	Thr	Thr	His	Cys	Ile	Arg	Ala	Leu	
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Asn	Cys	Tyr	Ala	Val	Ile	Glu	Asp	Leu	Thr	Arg	Ser	Tyr	Val	Asn	
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Lys Thr Gln Arg	
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Tyr Asp Val Leu Lys Lys Asp Ile Asp Asn Val Arg Arg Gly Phe	
	3610 3615 3620
gcg gac gcg ttc aac ccg agg ctg gca aaa ctg ctg tgc ccg tta	60284

Ala Asp Ala Phe	Asn Pro Arg Leu	Ala Lys Leu Leu Ser	Pro Leu	
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Ser His Val Asp	Val Gln Arg Ala Val	Arg Ile Ser Met Ser	Phe	
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Glu Val Asn Leu	Gly Arg Arg Arg Pro	Asp Cys Val Cys Ile	Ile	
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Gln Thr Glu Ser	Ser Gly Ala Gly Lys	Thr Val Cys Phe Ile	Val	
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Lys Tyr His Gln	Phe Cys Glu Gly Met	Arg Gln Leu Arg Asp	Thr	
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Lys Ile His Val	Cys Ser Leu Ala Lys	Lys Arg Ala Lys Ser	Cys	
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Met Ala Ile Arg Thr Gly Phe Cys Asn Pro Phe Leu Thr Gln	
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Ala Ser Gly Ile Lys Tyr Asn Pro Arg Thr Gly Arg Gly Ser Asn	
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aga gaa ttt ctt cat agt tac aaa act acc atg tca tcg ttt caa	74380
Arg Glu Phe Leu His Ser Tyr Lys Thr Thr Met Ser Ser Phe Gln	
5060 5065 5070	
ttt ttg gcc cct aaa tgt tta gat gaa gat gtg ccc atg gaa gaa	74425
Phe Leu Ala Pro Lys Cys Leu Asp Glu Asp Val Pro Met Glu Glu	
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cga aag ggg gtt	cac gtc ggt aca ctt	agt cga ccg cct aaa gtt	74470
Arg Lys Gly Val	His Val Gly Thr Leu	Ser Arg Pro Pro Lys Val	
5090	5095	5100	
tac tgt aat gga	aaa gaa gtt ccg att	ctg gat ttt cgt tgt tcc	74515
Tyr Cys Asn Gly	Lys Glu Val Pro Ile	Leu Asp Phe Arg Cys Ser	
5105	5110	5115	
agc ccc tgg cct	aga cgc gtg aat att	tgg ggg gaa atc gac ttt	74560
Ser Pro Trp Pro	Arg Arg Val Asn Ile	Trp Gly Glu Ile Asp Phe	
5120	5125	5130	
cgt ggg gat aag	ttt gac ccc cgc ttt	aac aca ttc cat gta tat	74605
Arg Gly Asp Lys	Phe Asp Pro Arg Phe	Asn Thr Phe His Val Tyr	
5135	5140	5145	
gat att gtc gaa	aca aca gaa gcc gcg	tct aat gga gat gta tcc	74650
Asp Ile Val Glu	Thr Thr Glu Ala Ala	Ser Asn Gly Asp Val Ser	
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cgg ttt gca act	gca aca cga ccg ctt	ggg acc gtt att act tta	74695
Arg Phe Ala Thr	Ala Thr Arg Pro Leu	Gly Thr Val Ile Thr Leu	
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ctt ggc atg tcc	cga tgt gga aaa agg	gtg gca gtt cat gta tac	74740
Leu Gly Met Ser	Arg Cys Gly Lys Arg	Val Ala Val His Val Tyr	
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ggc atc tgt caa	tat ttt tat ata aac	aaa gcc gag gtg gat acc	74785
Gly Ile Cys Gln	Tyr Phe Tyr Ile Asn	Lys Ala Glu Val Asp Thr	
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gct tgt ggc ata	cgt tcc ggt agc gag	tta tct gta tta ctt gcc	74830
Ala Cys Gly Ile	Arg Ser Gly Ser Glu	Leu Ser Val Leu Leu Ala	
5210	5215	5220	
gag tgt tta cgc	agt tct atg ata aca	caa aat gat gca acg tta	74875
Glu Cys Leu Arg	Ser Ser Met Ile Thr	Gln Asn Asp Ala Thr Leu	
5225	5230	5235	
aat gga gac aag	aac gct ttt cat ggt	acc tcg ttt aaa agc gca	74920
Asn Gly Asp Lys	Asn Ala Phe His Gly	Thr Ser Phe Lys Ser Ala	
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tct cca gaa agc	ttt cgc gtt gag gtt	att gag cgc aca gat gtt	74965
Ser Pro Glu Ser	Phe Arg Val Glu Val	Ile Glu Arg Thr Asp Val	
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Tyr Tyr Tyr Asp	Thr Gln Pro Cys Ala	Phe Tyr Arg Val Tyr Ser	
5270	5275	5280	
ccc tca tct aaa	ttt aca aat tat ctt	tgt gat aac ttt cac ccg	75055
Pro Ser Ser Lys	Phe Thr Asn Tyr Leu	Cys Asp Asn Phe His Pro	
5285	5290	5295	
gag ttg aaa aag	tat gaa ggt ccg gta	gac gct acc act cgt ttt	75100
Glu Leu Lys Lys	Tyr Glu Gly Arg Val	Asp Ala Thr Thr Arg Phe	
5300	5305	5310	

cta atg gat aat	ccc ggc ttt gtt agt	ttt ggt tgg tat caa	cta	75145
Leu Met Asp Asn	Pro Gly Phe Val Ser	Phe Gly Trp Tyr Gln	Leu	
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Lys Pro Gly Val	Asp Gly Glu Arg Val	Arg Val Arg Pro Ala	Ser	
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Arg Gln Leu Thr	Leu Ser Asp Val Glu	Ile Asp Cys Met Ser	Asp	
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Asn Leu Gln Ala	Ile Pro Asn Asp Asp	Ser Trp Pro Asp Tyr	Lys	
5360	5365	5370		
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Leu Leu Cys Phe	Asp Ile Glu Cys Lys	Ser Gly Gly Ser Asn	Glu	
5375	5380	5385		
ctg gcg ttt ccc	gat gca aca cat ctg	gag gat ctt gta atc	caa	75370
Leu Ala Phe Pro	Asp Ala Thr His Leu	Glu Asp Leu Val Ile	Gln	
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Ile Ser Cys Leu	Leu Tyr Ser Ile Pro	Arg Gln Ser Leu Glu	His	
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Ile Leu Leu Phe	Ser Leu Gly Ser Cys	Asp Leu Pro Gln Arg	Tyr	
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Val Gln Glu Met	Lys Asp Ala Gly Leu	Pro Glu Pro Thr Val	Leu	
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Glu Phe Asp Ser	Glu Phe Glu Leu Leu	Ile Ala Phe Met Thr	Leu	
5450	5455	5460		
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Val Lys Gln Tyr	Ala Pro Glu Phe Ala	Thr Gly Tyr Asn Ile	Val	
5465	5470	5475		
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Asn Phe Asp Trp	Ala Phe Ile Met Glu	Lys Leu Asn Ser Ile	Tyr	
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Phe Lys Ile Trp	Asp Val Gly Lys Ser	Gly Phe Gln Arg Arg	Ser	
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Lys Val Lys Ile	Asn Gly Leu Ile Ser	Leu Asp Met Tyr Ala	Ile	
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Ala Thr Glu Lys Leu Lys Leu Ser Ser Tyr Lys Leu Asp Ser Val	
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Ala Arg Glu Ala Leu Asn Glu Ser Lys Arg Asp Leu Pro Tyr Lys	
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Ile Gly Glu Tyr Cys Ile Gln Asp Ser Ala Leu Val Gly Lys Leu	
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Phe Phe Lys Tyr Leu Pro His Leu Glu Leu Ser Ala Val Ala Arg	
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Val Arg Ile Tyr Thr Cys Leu Leu Gly Leu Ala Ser Ser Arg Gly	
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Phe Glu Thr Val Lys Arg Leu Asn Pro Ser Asp Tyr Ala Thr Phe	
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Thr Val Gly Gly Lys Arg Leu Phe Phe Val Arg Ser Asn Val Arg	
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Lys Ala Ile Arg Ala Arg Ile Pro Gly Ser Ser Ser Asp Glu Ala	
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Val Leu Leu Asp Lys Gln Gln Ala Ala Ile Lys Val Val Cys Asn	
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Phe Ile Asn Asp Tyr Ala Arg Lys Leu Val Glu Leu Leu Leu Tyr	
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Asp Asp Thr Val Ser Arg Ala Ala Ala Glu Ala Ser Cys Val Ser	
5975 5980 5985	

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Ile Ala Glu Trp	Asn Arg Arg Ala Met	Pro Ser Gly Met Ala Gly	
5990	5995	6000	
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Phe Gly Arg Ile	Ile Ala Asp Ala His	Arg Gln Ile Thr Ser Pro	
6005	6010	6015	
aaa ttg gat att	aat aag ttt gtt atg	acg gcc gag ctt agt cgt	77260
Lys Leu Asp Ile	Asn Lys Phe Val Met	Thr Ala Glu Leu Ser Arg	
6020	6025	6030	
cca cca tcc gcc	tac ata aac cgt cgc	ttg gct cac tta aca gta	77305
Pro Pro Ser Ala	Tyr Ile Asn Arg Arg	Leu Ala His Leu Thr Val	
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tat tat aaa tta	gta atg aga cag ggt	caa atc cca aac gtt cga	77350
Tyr Tyr Lys Leu	Val Met Arg Gln Gly	Gln Ile Pro Asn Val Arg	
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gaa cgc atc cct	tat gtt att gtg gcc	ccc aca gac gaa gtg gag	77395
Glu Arg Ile Pro	Tyr Val Ile Val Ala	Pro Thr Asp Glu Val Glu	
6065	6070	6075	
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Ala Asp Ala Lys	Ser Val Ala Leu Leu	Arg Gly Asp Pro Leu Gln	
6080	6085	6090	
aat acc gca ggt	aaa cgg tgt ggg gaa	gca aag cgt aag tta ata	77485
Asn Thr Ala Gly	Lys Arg Cys Gly Glu	Ala Lys Arg Lys Leu Ile	
6095	6100	6105	
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Ile Ser Asp Leu	Ala Glu Asp Pro Ile	His Val Thr Ser His Gly	
6110	6115	6120	
ctg tct tta aac	att gac tat tat ttt	tct cat ctc att ggg acg	77575
Leu Ser Leu Asn	Ile Asp Tyr Tyr Phe	Ser His Leu Ile Gly Thr	
6125	6130	6135	
gcg agt gta act	ttt aag gcg tta ttt	gga aac gac act aaa ctc	77620
Ala Ser Val Thr	Phe Lys Ala Leu Phe	Gly Asn Asp Thr Lys Leu	
6140	6145	6150	
aca gaa cgg ctt	tta aaa cgt ttt att	cca gag aca cga gtt gtt	77665
Thr Glu Arg Leu	Leu Lys Arg Phe Ile	Pro Glu Thr Arg Val Val	
6155	6160	6165	
aac gtt aaa atg	cta aac cgc ttg cag	gcg gca ggc ttt gtt tgt	77710
Asn Val Lys Met	Leu Asn Arg Leu Gln	Ala Ala Gly Phe Val Cys	
6170	6175	6180	
ata cac gcc ccg	tgc tgg gat aat aaa	atg aac act gaa gct gaa	77755
Ile His Ala Pro	Cys Trp Asp Asn Lys	Met Asn Thr Glu Ala Glu	
6185	6190	6195	
atc acc gag gag	gaa caa agt cat caa	ata atg cgt aga gtc ttt	77800
Ile Thr Glu Glu	Glu Gln Ser His Gln	Ile Met Arg Arg Val Phe	
6200	6205	6210	

tgt att cca aaa gca att ctc cat caa agt taa ggtcacacat	77843
Cys Ile Pro Lys Ala Ile Leu His Gln Ser	
6215 6220	
tttacagtaa acgtccgatg ttccaatgga tggcaccaca gtctctgttt gttgtttctgg	77903
gttgcgacat accgacagta aaaatgttgt ctgccaaaacg tgtgcgacta ttttataccc	77963
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		Met Tyr Glu Ser	Glu Asn Ala Ser Glu			
		6225		6230		
cac cat ccg	gaa tta	gaa gat gta	ttt tog	gag aat acg	ggc gat	80338
His His Pro	Glu Leu	Glu Asp Val Phe	Ser	Glu Asn Thr Gly	Asp	
	6235		6240		6245	
tog aat cca	tcc atg	ggg tct tct	gat tct	acc cga tcc	atc tct	80383
Ser Asn Pro	Ser Met	Gly Ser Ser Asp	Ser	Thr Arg Ser Ile	Ser	
	6250		6255		6260	
ggg atg agg	gcc cgc	gat tta att	aca gac	acc gat gtt	aat cta	80428
Gly Met Arg	Ala Arg	Asp Leu Ile Thr	Asp	Thr Asp Val Asn	Leu	
	6265		6270		6275	
tta aat atc	gat gca	ctg gag tca	aag tat	ttt cct got	gat ago	80473
Leu Asn Ile	Asp Ala	Leu Glu Ser Lys	Tyr	Phe Pro Ala Asp	Ser	
	6280		6285		6290	
acc ttt act	ctt tcc	gtt tgg ttt	gaa aat	tta att ccc	ccg gaa	80518
Thr Phe Thr	Leu Ser	Val Trp Phe	Glu Asn	Leu Ile Pro Pro	Glu	
	6295		6300		6305	
ata gaa goa	att cta	cct aca act	gac gct	caa tta aat	tat ata	80563
Ile Glu Ala	Ile Leu	Pro Thr Thr Asp	Ala	Gln Leu Asn Tyr	Ile	
	6310		6315		6320	
tca ttt acc	agt cgc	ctg gcg tcc	gtt tta	aaa cat aaa	gaa agt	80608
Ser Phe Thr	Ser Arg	Leu Ala Ser Val	Leu	Lys His Lys Glu	Ser	
	6325		6330		6335	
aac gat tca	gaa aaa	tct got tat	gtt gtt	cca tgt gaa	cat agt	80653
Asn Asp Ser	Glu Lys	Ser Ala Tyr Val	Val	Pro Cys Glu His	Ser	
	6340		6345		6350	

gcc agc gtg acc cgt	cgc cgt gaa cgc ttt	gcg gga gtc atg gcc	80698
Ala Ser Val Thr Arg	Arg Arg Glu Arg Phe	Ala Gly Val Met Ala	
6355	6360	6365	
aaa ttt cta gat ttg	cat gaa ata ttg aag	gat gct taa tacatgggga	80747
Lys Phe Leu Asp Leu	His Glu Ile Leu Lys	Asp Ala	
6370	6375		
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cgataaatgg	tctaaataact	tcacgcgtgt	80866
		gccttggttt	
		gcaacottag	
		atcaat atg	
		Met	
tca cgg	aga acg tat gta cgg	agt gaa cgc agg agg	80911
Ser Arg	Arg Thr Tyr Val Arg	Ser Glu Arg Arg Arg	
6380	6385	6390	
		ggt tgc gga	
		Gly Cys Gly	
gat aat	ctt tta caa cgt att	cgg ttg gtg gta cca	80956
Asp Asn	Leu Leu Gln Arg Ile	Arg Leu Val Val Pro	
6395	6400	6405	
		agc gct ctt	
		Ser Ala Leu	
caa tgt	tgc gat ggg gat ctt	cca ata ttt gat cca	81001
Gln Cys	Cys Asp Gly Asp Leu	Pro Ile Phe Asp Pro	
6410	6415	6420	
		caa cgc ccc	
		Gln Arg Pro	
ccc gcc	cgt tgt gtt ttt cag	ttt aac ggc gaa gac	81046
Pro Ala	Arg Cys Val Phe Gln	Phe Asn Gly Glu Asp	
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		Asn Val Ser	
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Glu Ala	Phe Pro Val Glu Tyr	Ile Met Arg Leu Met	
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		gcg aat tgg	
		Ala Asn Trp	
gcg caa	gta gat tgt gac cct	tac ata aaa att caa	81136
Ala Gln	Val Asp Cys Asp Pro	Tyr Ile Lys Ile Gln	
6455	6460	6465	
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		Asn Thr Gly	
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Val Ser	Val Leu Phe Gln Gly	Phe Phe Phe Arg Pro	
6470	6475	6480	
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		Thr Asn Ala	
cca gtg	gct gaa gtg tcc att	gac agt aat aac gtg	81226
Pro Val	Ala Glu Val Ser Ile	Asp Ser Asn Asn Val	
6485	6490	6495	
		att ctt agt	
		Ile Leu Ser	
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Ser Thr	Leu Ser Thr Gly Ile	Asn Leu Ser Ala Leu	
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		Glu Ser Ile	
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Lys Arg	Gly Gly Gly Ile Asp	Arg Arg Pro Leu Gln	
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		Ala Leu Met	
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Trp Val	Asn Cys Phe Val Arg	Met Pro Tyr Val Gln	
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		Leu Ser Phe	
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		aaa ctt atg	

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Leu Asp Glu Tyr Ile Arg Trp Arg Pro Ser Phe Arg Ser Pro Pro	
6575 6580 6585	
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Lys Pro Ala Leu Pro Asp Thr Gln Thr Thr Arg Val Trp Lys Leu	
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Gln Pro Gly His Arg Val Asp Ile Ala Asp Ala Arg Ser Ile Tyr	
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Ala Asp Gln Ser Ala Leu Gln	Gln Pro Ala Ala Leu	Ala Phe Ser		
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Gly Ser Ser Pro Gln His Pro	Pro Pro Gln Thr Thr	Ser Ala Ser		
6795	6800	6805		
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Val Gly Gln Gln Gln His Val	Val Ser Gly Ser Ser	Gly Gln Gln		
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Pro Gln Gln Gly Ala Gln Ser	Ser Thr Val Gln Pro	Thr Thr Gly		
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Thr Gly Gln Ser Gly Asn Ala	Ser Arg Ser Arg Arg	Val		
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Tyr Ser	Glu Leu Ser Arg	Glu Ser Asp Val Ile	Cys Thr Val Lys	
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Met Asn Glu Ala
9820
gta att gat ccc atc ttg gaa acg gca gta aat aca ggt gat atg 114274
Val Ile Asp Pro Ile Leu Glu Thr Ala Val Asn Thr Gly Asp Met
9825 9830 9835
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Phe Cys Ser Gln Thr Ile Pro Asn Arg Cys Leu Lys Asp Thr Ile
9840 9845 9850
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Leu Ile Glu Val Gln Pro Glu Cys Ala Asp Thr Leu Gln Cys Val
9855 9860 9865
tta gac gat aaa gta agt cga cat caa ccg ttg tta ctc cgg aac 114409
Leu Asp Asp Lys Val Ser Arg His Gln Pro Leu Leu Leu Arg Asn
9870 9875 9880
cac aag aaa ctc gaa ctg cca tct gaa aaa tot gta aca cgg ggc 114454
His Lys Lys Leu Glu Leu Pro Ser Glu Lys Ser Val Thr Arg Gly
9885 9890 9895
ggg ttt tat atg cag cag ttg gag ctg ttg gtt aag tcg gcg cct 114499
Gly Phe Tyr Met Gln Gln Leu Glu Leu Leu Val Lys Ser Ala Pro
9900 9905 9910
ccc aat gaa tac gca ctg ttg tta att caa tgc aaa gat act gcc 114544
Pro Asn Glu Tyr Ala Leu Leu Leu Ile Gln Cys Lys Asp Thr Ala
9915 9920 9925

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Leu Ala	Asp Glu Asp Asn Phe	Phe Val Ala Asn Gly	Val Ile Asp	
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gcg ggt	tac aga gga gta att	tca gcc ctt ttg tat	tac cgg cca	114634
Ala Gly	Tyr Arg Gly Val Ile	Ser Ala Leu Leu Tyr	Tyr Arg Pro	
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Gly Val	Thr Val Ile Leu Pro	Gly His Leu Thr Ile	Tyr Leu Phe	
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Pro Val	Lys Leu Arg Gln Ser	Arg Leu Leu Pro Lys	Asn Val Leu	
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Lys His	Leu Asp Pro Ile Phe	Lys Ser Ile Gln Val	Gln Pro Leu	
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Ser Asn	Ser Pro Ser Asn Tyr	Glu Lys Pro Val Ile	Pro Glu Phe	
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Ala Asp	Ile Ser Thr Val Gln	Gln Gly Gln Pro Leu	His Arg Asp	
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Ser Ala	Glu Tyr His Ile Asp	Val Pro Leu Thr Tyr	Lys His Ile	
10035	10040	10045		
atc aat	cca aaa cgc caa gaa	gac gcg gga tat gat	att tgt gta	114949
Ile Asn	Pro Lys Arg Gln Glu	Asp Ala Gly Tyr Asp	Ile Cys Val	
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cca tat	aac cta tat tta aaa	agg aat gaa ttt ata	aaa att gtc	114994
Pro Tyr	Asn Leu Tyr Leu Lys	Arg Asn Glu Phe Ile	Lys Ile Val	
10065	10070	10075		
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Leu Pro	Ile Ile Arg Asp Trp	Asp Leu Gln His Pro	Ser Ile Asn	
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Ala Tyr	Ile Phe Gly Arg Ser	Ser Lys Ser Arg Ser	Gly Ile Ile	
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gtg tgt	cca acg gca tgg cct	gca gga gaa cac tgt	aaa ttc tac	115129
Val Cys	Pro Thr Ala Trp Pro	Ala Gly Glu His Cys	Lys Phe Tyr	
10110	10115	10120		
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Val Tyr	Asn Leu Thr Gly Asp	Asp Ile Arg Ile Lys	Thr Gly Asp	
10125	10130	10135		
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Arg Leu	Ala Gln Val Leu Leu	Ile Asp His Asn Thr	Gln Ile His	
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Leu Lys	His Asn Val Leu Ser	Asn Ile Ala Phe Pro	Tyr Ala Ile			
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cgc ggt	aaa tgt ggc ata ccg	ggg gta caa tgg tat	ttt act aaa	115309		
Arg Gly	Lys Cys Gly Ile Pro	Gly Val Gln Trp Tyr	Phe Thr Lys			
10170	10175	10180				
acg tta	gat cta ata gcc aca	ccc agc gaa cgg gga	acg cgt gga	115354		
Thr Leu	Asp Leu Ile Ala Thr	Pro Ser Glu Arg Gly	Thr Arg Gly			
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ttt ggt	tca act gat aaa gaa	aca aac gat gtc gat	ttt cta cta	115399		
Phe Gly	Ser Thr Asp Lys Glu	Thr Asn Asp Val Asp	Phe Leu Leu			
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aaa cat	taa atgtaataac cagccagcc	agcaatgttt taattttata		115448		
Lys His						
10215						
tacaaaataa	aaacatacac	cagaaacggt	tttagttttt	atttcaatat	ttatacaagc	115508
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ctttccaacg	tattgaact	atg gat aaa tcc tcc	aaa ccg acg att cgg			116337
		Met Asp Lys Ser Ser	Lys Pro Thr Ile Arg			
		10220	10225			
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Leu Leu Phe Ala Thr	Lys Gly Cys Ala Ile	Ser His Ser Leu Leu				
10230	10235	10240				
ttg ctt acc ggg cag	ata agc aca gaa cct	ctg tat gtg gtg agt				116427
Leu Leu Thr Gly Gln	Ile Ser Thr Glu Pro	Leu Tyr Val Val Ser				
10245	10250	10255				

tat act tgg act ccc	gac tta gat gac gtc	ttt gtc aaa aat ggg	116472
Tyr Thr Trp Thr Pro	Asp Leu Asp Asp Val	Phe Val Lys Asn Gly	
10260	10265	10270	
agg gaa gag atc acg	caa gta atc cca act	aaa cgc cca cgt gaa	116517
Arg Glu Glu Ile Thr	Gln Val Ile Pro Thr	Lys Arg Pro Arg Glu	
10275	10280	10285	
gta act gaa aac gat	gaa gaa aac caa ata	atg cat tta ttt tgt	116562
Val Thr Glu Asn Asp	Glu Glu Asn Gln Ile	Met His Leu Phe Cys	
10290	10295	10300	
agt agg gac gtc aac	gtt att ttt tat tta	att ggt gga ttt tca	116607
Ser Arg Asp Val Asn	Val Ile Phe Tyr Leu	Ile Gly Gly Phe Ser	
10305	10310	10315	
act gga gat gta cga	tcc cgg gtc tgg cct	ata ttt ttt tgt tgt	116652
Thr Gly Asp Val Arg	Ser Arg Val Trp Pro	Ile Phe Phe Cys Cys	
10320	10325	10330	
ttt aaa acc caa act	gat ttt aaa gct tta	tat aag gcg tta tgg	116697
Phe Lys Thr Gln Thr	Asp Phe Lys Ala Leu	Tyr Lys Ala Leu Trp	
10335	10340	10345	
tat gga gca ccc cta	aat ccg cat ata ata	tct gat acc cta tgt	116742
Tyr Gly Ala Pro Leu	Asn Pro His Ile Ile	Ser Asp Thr Leu Cys	
10350	10355	10360	
ata tcg gag acg ttt	gac att cac tcg gaa	gtt ata caa act ctg	116787
Ile Ser Glu Thr Phe	Asp Ile His Ser Glu	Val Ile Gln Thr Leu	
10365	10370	10375	
atg gta aca aca cac	cat tta aac cga aag	gga tta tcg gac aac	116832
Met Val Thr Thr His	His Leu Asn Arg Lys	Gly Leu Ser Asp Asn	
10380	10385	10390	
ggc cta tgc atc aca	gag gca aca ctc tgc	aag tta gtt aaa aaa	116877
Gly Leu Cys Ile Thr	Glu Ala Thr Leu Cys	Lys Leu Val Lys Lys	
10395	10400	10405	
tcc gtt ggt cgt cag	gag cta aca tca tta	tat gcc cat tac gaa	116922
Ser Val Gly Arg Gln	Glu Leu Thr Ser Leu	Tyr Ala His Tyr Glu	
10410	10415	10420	
cgt caa gta ttg gct	gca tat cga cga ctc	tac tgg ggg tat gga	116967
Arg Gln Val Leu Ala	Ala Tyr Arg Arg Leu	Tyr Trp Gly Tyr Gly	
10425	10430	10435	
tgc tcg ccg ttt tgg	tat att gtt cga ttt	gga ccc tct gaa aaa	117012
Cys Ser Pro Phe Trp	Tyr Ile Val Arg Phe	Gly Pro Ser Glu Lys	
10440	10445	10450	
acg cta gtg ttg gct	aca cgc tat tac ttg	tta caa acg gac aca	117057
Thr Leu Val Leu Ala	Thr Arg Tyr Tyr Leu	Leu Gln Thr Asp Thr	
10455	10460	10465	
agt tac aat acg ttg	gaa acc ccc tta tat	gac tta cag gca att	117102
Ser Tyr Asn Thr Leu	Glu Thr Pro Leu Tyr	Asp Leu Gln Ala Ile	
10470	10475	10480	

aaa gat ttg ttt tta	act tac caa gtc ccg	gca tta cct aat tgt	117147
Lys Asp Leu Phe Leu	Thr Tyr Gln Val Pro	Ala Leu Pro Asn Cys	
10485	10490	10495	
agt ggg tac aat att	tcg gac ttg ttg tct	ttt gat aaa ctt tcc	117192
Ser Gly Tyr Asn Ile	Ser Asp Leu Leu Ser	Phe Asp Lys Leu Ser	
10500	10505	10510	
atg ttt tgt tgt tcc	tca aca tat aca cga	ggg ttg aca gcc aaa	117237
Met Phe Cys Cys Ser	Ser Thr Tyr Thr Arg	Gly Leu Thr Ala Lys	
10515	10520	10525	
aat gct cta tcg tac	att tta cag cga ata	cat aca gac aca acg	117282
Asn Ala Leu Ser Tyr	Ile Leu Gln Arg Ile	His Thr Asp Thr Thr	
10530	10535	10540	
gaa ata cac gca gta	tcg gag tat att acc	aac gat aga aaa ggc	117327
Glu Ile His Ala Val	Ser Glu Tyr Ile Thr	Asn Asp Arg Lys Gly	
10545	10550	10555	
ctt aaa gtt cca gac	cgt gaa ttt gtt gat	tat att tat ctg gca	117372
Leu Lys Val Pro Asp	Arg Glu Phe Val Asp	Tyr Ile Tyr Leu Ala	
10560	10565	10570	
cat ttt gaa tgt ttc	aat cgg aaa cag atc	gca gac cac cta caa	117417
His Phe Glu Cys Phe	Asn Arg Lys Gln Ile	Ala Asp His Leu Gln	
10575	10580	10585	
gcg gtt aca tac tca	gat ttt gtg aat aaa	ccg gtc ctc tta aaa	117462
Ala Val Thr Tyr Ser	Asp Phe Val Asn Lys	Pro Val Leu Leu Lys	
10590	10595	10600	
tca tcc aac ctg gga	aaa aga gct act gct	aat ttt ttt aat cat	117507
Ser Ser Asn Leu Gly	Lys Arg Ala Thr Ala	Asn Phe Phe Asn His	
10605	10610	10615	
gta cgt tct cgt ctc	aac atg cgt gac tat	ata aaa aag aac gta	117552
Val Arg Ser Arg Leu	Asn Met Arg Asp Tyr	Ile Lys Lys Asn Val	
10620	10625	10630	
att tgt gat gtc act	gaa ctt gga cct gag	att gga cat aaa tat	117597
Ile Cys Asp Val Thr	Glu Leu Gly Pro Glu	Ile Gly His Lys Tyr	
10635	10640	10645	
aca att act aaa aca	tat act tta agt ctt	acg tat gcc gca aaa	117642
Thr Ile Thr Lys Thr	Tyr Thr Leu Ser Leu	Thr Tyr Ala Ala Lys	
10650	10655	10660	
cct agc aag ttt ata	ggc gta tgt gac cta	gct aca acg cta act	117687
Pro Ser Lys Phe Ile	Gly Val Cys Asp Leu	Ala Thr Thr Leu Thr	
10665	10670	10675	
cgt cgt gtg gaa aac	att gaa aaa caa ttt	agt cca tat gga tgg	117732
Arg Arg Val Glu Asn	Ile Glu Lys Gln Phe	Ser Pro Tyr Gly Trp	
10680	10685	10690	
tcc tcc act att ccc	tca aat cca ccc ggt	ttt gac gaa ttg tct	117777
Ser Ser Thr Ile Pro	Ser Asn Pro Pro Gly	Phe Asp Glu Leu Ser	
10695	10700	10705	

aat ttt gag gat tgg	ggt gtt tcc gcg gag	gcg tta cga gca gcc	117822
Asn Phe Glu Asp Ser	Gly Val Ser Ala Glu	Ala Leu Arg Ala Ala	
10710	10715	10720	
aac ttt gca aac gat	aca cct aac caa agt	ggt cgt act ggt ttt	117867
Asn Phe Ala Asn Asp	Thr Pro Asn Gln Ser	Gly Arg Thr Gly Phe	
10725	10730	10735	
gat acg agc ccg ggg	att aca aaa cta tta	ctg ttt ttc tct gct	117912
Asp Thr Ser Pro Gly	Ile Thr Lys Leu Leu	Leu Phe Phe Ser Ala	
10740	10745	10750	
gcc act ggg ata gcc	aca cat gat gta tcc	atc ctg agt tat aaa	117957
Ala Thr Gly Ile Ala	Thr His Asp Val Ser	Ile Leu Ser Tyr Lys	
10755	10760	10765	
act cca tta gaa gcc	ctc atc ggc cat tct	gag gta act gga cca	118002
Thr Pro Leu Glu Ala	Leu Ile Gly His Ser	Glu Val Thr Gly Pro	
10770	10775	10780	
atg cct gta tat cgg	gta gcc ttg cct cac	ggc gcc caa gca ttt	118047
Met Pro Val Tyr Arg	Val Ala Leu Pro His	Gly Ala Gln Ala Phe	
10785	10790	10795	
gct gtt att gct aat	gat acg tgg tca tca	ata aca aac cgt tac	118092
Ala Val Ile Ala Asn	Asp Thr Trp Ser Ser	Ile Thr Asn Arg Tyr	
10800	10805	10810	
act tta ccg cac gag	gct cga tta att gcg	gag gac ctt aaa caa	118137
Thr Leu Pro His Glu	Ala Arg Leu Ile Ala	Glu Asp Leu Lys Gln	
10815	10820	10825	
att aat cca tgt aat	ttt gtt gcc gct tca	cta cga gat atg cag	118182
Ile Asn Pro Cys Asn	Phe Val Ala Ala Ser	Leu Arg Asp Met Gln	
10830	10835	10840	
ttg act tta cta tta	tct acg tct gtt aaa	aac gtt tct aaa att	118227
Leu Thr Leu Leu Leu	Ser Thr Ser Val Lys	Asn Val Ser Lys Ile	
10845	10850	10855	
tca tca aac ata ccc	aaa gat cag ctt tat	ata aac agg aat gag	118272
Ser Ser Asn Ile Pro	Lys Asp Gln Leu Tyr	Ile Asn Arg Asn Glu	
10860	10865	10870	
cta ttt aat aca aat	ctt ata atc aca aac	ctc ata ctt gat gta	118317
Leu Phe Asn Thr Asn	Leu Ile Ile Thr Asn	Leu Ile Leu Asp Val	
10875	10880	10885	
gac ttt cat ata aga	aaa ccc atc cca ttg	ggt att tta cat gcc	118362
Asp Phe His Ile Arg	Lys Pro Ile Pro Leu	Gly Ile Leu His Ala	
10890	10895	10900	
ggc atg cga gca ttt	cgt cat ggt att tta	acg gcc atg caa tta	118407
Gly Met Arg Ala Phe	Arg His Gly Ile Leu	Thr Ala Met Gln Leu	
10905	10910	10915	
ctt ttt cca aag gcc	gtg gta aac cct aac	aaa gac cca tgt tat	118452
Leu Phe Pro Lys Ala	Val Val Asn Pro Asn	Lys Asp Pro Cys Tyr	
10920	10925	10930	

ttt tat aaa act gca	tgt cct gaa cct acc	gtt gag gtg ttg gat	118497
Phe Tyr Lys Thr Ala	Cys Pro Glu Pro Thr	Val Glu Val Leu Asp	
10935	10940	10945	
gat gat aat tta ttg	gat ata acc agc cat	tct gac atc gat ttt	118542
Asp Asp Asn Leu Leu	Asp Ile Thr Ser His	Ser Asp Ile Asp Phe	
10950	10955	10960	
tac ata gaa aat ggc	gaa tta tac acg tgt	gta gaa gag aat tat	118587
Tyr Ile Glu Asn Gly	Glu Leu Tyr Thr Cys	Val Glu Glu Asn Tyr	
10965	10970	10975	
aca gag gat gta tgg	ttt ttt gat aca cag	aca acg tct gaa gtc	118632
Thr Glu Asp Val Trp	Phe Phe Asp Thr Gln	Thr Thr Ser Glu Val	
10980	10985	10990	
cat aca cac gcc gat	gta tca aac aat gaa	aac ttg cat gaa act	118677
His Thr His Ala Asp	Val Ser Asn Asn Glu	Asn Leu His Glu Thr	
10995	11000	11005	
cta ccc tgt aac tgt	aaa gag aaa ata ggt	ttc agg gta tgc gta	118722
Leu Pro Cys Asn Cys	Lys Glu Lys Ile Gly	Phe Arg Val Cys Val	
11010	11015	11020	
cca atc cca aat ccc	tat gcg tta gtg ggg	tct tcc act tta aag	118767
Pro Ile Pro Asn Pro	Tyr Ala Leu Val Gly	Ser Ser Thr Leu Lys	
11025	11030	11035	
ggg ttt gca caa ata	tta cag caa gcg gtg	ttg ctg gaa cgg gaa	118812
Gly Phe Ala Gln Ile	Leu Gln Gln Ala Val	Leu Leu Glu Arg Glu	
11040	11045	11050	
ttt gtt gaa tat att	ggg ccg tat tta cgg	gac ttt tcg ttt ata	118857
Phe Val Glu Tyr Ile	Gly Pro Tyr Leu Arg	Asp Phe Ser Phe Ile	
11055	11060	11065	
gat act ggt gtt tat	agc cac gga cat agt	tta aga ctg cct ttt	118902
Asp Thr Gly Val Tyr	Ser His Gly His Ser	Leu Arg Leu Pro Phe	
11070	11075	11080	
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Phe Ser Lys Val Thr	Thr Thr Gly Thr Ala	Val Gly Gln Leu Leu	
11085	11090	11095	
cca ttt tat gtt gta	cct gag cag tgt att	gat ata tta gcg ttt	118992
Pro Phe Tyr Val Val	Pro Glu Gln Cys Ile	Asp Ile Leu Ala Phe	
11100	11105	11110	
gtg aca tca cat aga	aac ccg gca aac ttt	cat ttt cat tca aga	119037
Val Thr Ser His Arg	Asn Pro Ala Asn Phe	His Phe His Ser Arg	
11115	11120	11125	
ccg cag tcg aat gtt	cca gtg caa ttt att	tta cat aac ctt ggg	119082
Pro Gln Ser Asn Val	Pro Val Gln Phe Ile	Leu His Asn Leu Gly	
11130	11135	11140	
ggg gaa tac gca gag	ttt ttt gaa cgt aag	gtt gcg cgt aat aaa	119127
Gly Glu Tyr Ala Glu	Phe Phe Glu Arg Lys	Val Ala Arg Asn Lys	
11145	11150	11155	

caa ata ttt agc tcc	cgc caa ata tct tta	aca aag gct cta aaa	119172
Gln Ile Phe Ser Ser	Pro Gln Ile Ser Leu	Thr Lys Ala Leu Lys	
11160	11165	11170	
gag cgc ggg gta act	tgt ctg gac gca ttt	aca ctg gag gcc ttt	119217
Glu Arg Gly Val Thr	Cys Leu Asp Ala Phe	Thr Leu Glu Ala Phe	
11175	11180	11185	
gtc gac agc aca ata	tta gaa tct att gtg	gag cat att gct gtt	119262
Val Asp Ser Thr Ile	Leu Glu Ser Ile Val	Glu His Ile Ala Val	
11190	11195	11200	
cat ttc ccc ggg cgt	gat cgc gaa tat acc	tta aca tca tca aag	119307
His Phe Pro Gly Arg	Asp Arg Glu Tyr Thr	Leu Thr Ser Ser Lys	
11205	11210	11215	
tgt atc gcc atc aaa	agg gac tgg gtg tta	ttt cag ctg ata tgc	119352
Cys Ile Ala Ile Lys	Arg Asp Trp Val Leu	Phe Gln Leu Ile Cys	
11220	11225	11230	
gga aca aaa ggg ttc	act tgt ctt cga tat	ccc cat cgc gga gga	119397
Gly Thr Lys Gly Phe	Thr Cys Leu Arg Tyr	Pro His Arg Gly Gly	
11235	11240	11245	
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Arg Thr Ala Pro Arg	Thr Phe Val Ser Leu	Arg Val Asp His His	
11250	11255	11260	
aac cgt ttg tgt att	tcg ctt gca caa caa	tgt ttt gct aca aag	119487
Asn Arg Leu Cys Ile	Ser Leu Ala Gln Gln	Cys Phe Ala Thr Lys	
11265	11270	11275	
tgc gat agc aat cgc	atg cat aca atc ttt	act cta gaa gta cct	119532
Cys Asp Ser Asn Arg	Met His Thr Ile Phe	Thr Leu Glu Val Pro	
11280	11285	11290	
aat tat cca aat tta	act tcg agt taa caccaaccgt	gtgatactac	119579
Asn Tyr Pro Asn Leu	Thr Ser Ser		
11295			
atcggtgcttg aattggcctc	ttccaagggt c atg cag	gct tta gga atc	119628
	Met Gln	Ala Leu Gly Ile	
	11300		
aag aca gaa cat ttt ata	att atg tgt cta ctt	agc gga cat gct	119673
Lys Thr Glu His Phe Ile	Ile Met Cys Leu Leu	Ser Gly His Ala	
11305	11310	11315	
gtt ttt acc cta tgg tat	acc gct cgt gta aag	ttt gaa cat gag	119718
Val Phe Thr Leu Trp Tyr	Thr Ala Arg Val Lys	Phe Glu His Glu	
11320	11325	11330	
tgt gtg tat gca acc acg	gtg att aat ggt gga	ccg gtt gta tgg	119763
Cys Val Tyr Ala Thr Thr	Val Ile Asn Gly Gly	Pro Val Val Trp	
11335	11340	11345	
ggg tct tat aac aac tct	ctt ata tat gta acg	ttt gta aac cac	119808
Gly Ser Tyr Asn Asn Ser	Leu Ile Tyr Val Thr	Phe Val Asn His	
11350	11355	11360	

tca	aac	ttt	ttg	gat	ggc	cta	tct	gga	tac	gat	tac	agc	tgc	egg	119853
Ser	Thr	Phe	Leu	Asp	Gly	Leu	Ser	Gly	Tyr	Asp	Tyr	Ser	Cys	Arg	
11365					11370					11375					
gaa	aat	cta	tta	tca	gga	gat	act	atg	gta	aaa	acc	gct	att	tct	119898
Glu	Asn	Leu	Leu	Ser	Gly	Asp	Thr	Met	Val	Lys	Thr	Ala	Ile	Ser	
11380					11385					11390					
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Thr	Pro	Leu	His	Asp	Lys	Ile	Arg	Ile	Val	Leu	Gly	Thr	Arg	Asn	
11395					11400					11405					
tgt	caa	gct	tat	ttt	tgg	tgc	gtg	cag	cta	aaa	atg	att	ttt	ttt	119988
Cys	His	Ala	Tyr	Phe	Trp	Cys	Val	Gln	Leu	Lys	Met	Ile	Phe	Phe	
11410					11415					11420					
gca	tgg	ttt	gta	tat	ggg	atg	tat	tta	caa	ttt	cga	cga	ata	cgt	120033
Ala	Trp	Phe	Val	Tyr	Gly	Met	Tyr	Leu	Gln	Phe	Arg	Arg	Ile	Arg	
11425					11430					11435					
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Arg	Met	Phe	Gly	Pro	Phe	Arg	Ser	Ser	Cys	Glu	Leu	Ile	Ser	Pro	
11440					11445					11450					
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Thr	Ser	Tyr	Ser	Leu	Asn	Tyr	Val	Thr	Arg	Val	Ile	Ser	Asn	Ile	
11455					11460					11465					
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Leu	Leu	Gly	Tyr	Pro	Tyr	Thr	Lys	Leu	Ala	Arg	Leu	Leu	Cys	Asp	
11470					11475					11480					
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Val	Ser	Met	Arg	Arg	Asp	Gly	Met	Ser	Lys	Val	Phe	Asn	Ala	Asp	
11485					11490					11495					
cct	ata	agt	ttt	tta	tat	atg	cat	aaa	ggg	gtt	acg	tta	ttg	atg	120258
Pro	Ile	Ser	Phe	Leu	Tyr	Met	His	Lys	Gly	Val	Thr	Leu	Leu	Met	
11500					11505					11510					
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Leu	Leu	Glu	Val	Ile	Ala	His	Ile	Ser	Ser	Gly	Cys	Ile	Val	Leu	
11515					11520					11525					
tta	acg	ctt	ggc	gtt	gca	tat	aca	cca	tgc	gcg	tta	tta	tac	ccc	120348
Leu	Thr	Leu	Gly	Val	Ala	Tyr	Thr	Pro	Cys	Ala	Leu	Leu	Tyr	Pro	
11530					11535					11540					
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Thr	Tyr	Ile	Arg	Ile	Leu	Ala	Trp	Val	Val	Val	Cys	Thr	Leu	Ala	
11545					11550					11555					
ata	gta	gag	ctt	ata	tct	tat	gtt	aga	cca	aaa	cca	acc	aag	gat	120438
Ile	Val	Glu	Leu	Ile	Ser	Tyr	Val	Arg	Pro	Lys	Pro	Thr	Lys	Asp	
11560					11565					11570					
aat	cat	tta	aat	cat	atc	aat	acg	ggg	gga	ata	cgt	ggg	ata	tgc	120483
Asn	His	Leu	Asn	His	Ile	Asn	Thr	Gly	Gly	Ile	Arg	Gly	Ile	Cys	
11575					11580					11585					

aca	aca	tgt	tgc	gct	aca	gta	atg	tcc	ggc	ctt	gct	ata	aaa	tgt	120528
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11590					11595					11600					
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Phe	Tyr	Ile	Val	Ile	Phe	Ala	Ile	Ala	Val	Val	Ile	Phe	Met	His	
11605					11610					11615					
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Tyr	Glu	Gln	Arg	Val	Gln	Val	Ser	Leu	Phe	Gly	Glu	Ser	Glu	Asn	
11620					11625					11630					
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Ser	Gln	Lys	His												
11635															
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	Met	Ala	Ser	Ala	Ser	Ile	Pro	Thr	Asp	Pro	Asp	Val			
	11640						11645					11650			
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Ser	Thr	Ile	Cys	Glu	Asp	Phe	Met	Asn	Leu	Leu	Pro	Asp	Glu	Pro	
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tcg	gat	gac	ttt	gca	ttg	gaa	gtc	acc	gat	tgg	gca	aat	gat	gaa	120869
Ser	Asp	Asp	Phe	Ala	Leu	Glu	Val	Thr	Asp	Trp	Ala	Asn	Asp	Glu	
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gct	att	ggc	tcc	act	cca	ggc	gag	gac	tcc	aca	acg	tct	aga	act	120914
Ala	Ile	Gly	Ser	Thr	Pro	Gly	Glu	Asp	Ser	Thr	Thr	Ser	Arg	Thr	
				11685					11690					11695	
gtg	tat	gtg	gag	cgt	act	gca	gat	aca	gca	tat	aat	cca	cgg	tat	120959
Val	Tyr	Val	Glu	Arg	Thr	Ala	Asp	Thr	Ala	Tyr	Asn	Pro	Arg	Tyr	
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tcc	aaa	cga	agg	cac	gga	agg	cgt	gaa	agc	tac	cac	cac	aat	cgc	121004
Ser	Lys	Arg	Arg	His	Gly	Arg	Arg	Glu	Ser	Tyr	His	His	Asn	Arg	
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cgg	aaa	act	ttg	gtt	gtt	gta	tta	ccc	gat	tca	aac	cat	cat	gga	121049
Pro	Lys	Thr	Leu	Val	Val	Val	Leu	Pro	Asp	Ser	Asn	His	His	Gly	
				11730					11735					11740	
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Gly	Arg	Asp	Val	Glu	Thr	Gly	Tyr	Ala	Arg	Ile	Glu	Arg	Gly	His	
				11745					11750					11755	
cga	cga	tca	tcc	aga	tct	tat	aac	act	caa	agt	tca	aga	aaa	cac	121139
Arg	Arg	Ser	Ser	Arg	Ser	Tyr	Asn	Thr	Gln	Ser	Ser	Arg	Lys	His	
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cgt	gat	cga	tcc	ctg	tca	aat	cga	aga	cgg	cgt	cct	aca	acg	cct	121184
Arg	Asp	Arg	Ser	Leu	Ser	Asn	Arg	Arg	Arg	Arg	Pro	Thr	Thr	Pro	
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Pro	Ala	Met	Thr	Thr	Gly	Glu	Arg	Asn	Asp	Gln	Thr	His	Asp	Glu		
				11790					11795					11800		
tcg	tac	agg	ttg	cga	ttt	tcc	aag	aga	gac	gcc	cgc	cga	gag	cgt	121274	
Ser	Tyr	Arg	Leu	Arg	Phe	Ser	Lys	Arg	Asp	Ala	Arg	Arg	Glu	Arg		
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Ile	Arg	Lys	Glu	Tyr	Asp	Ile	Pro	Val	Asp	Arg	Ile	Thr	Gly	Arg		
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gct	att	gaa	gtc	gtc	tcc	acc	gog	gga	gcc	agc	gtg	acc	att	gac	121364	
Ala	Ile	Glu	Val	Val	Ser	Thr	Ala	Gly	Ala	Ser	Val	Thr	Ile	Asp		
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Ser	Val	Arg	His	Leu	Asp	Glu	Thr	Ile	Glu	Lys	Leu	Val	Val	Arg		
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Tyr	Ala	Thr	Ile	Gln	Glu	Gly	Asp	Ser	Trp	Ala	Ser	Gly	Gly	Cys		
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Phe	Pro	Gly	Ile	Lys	Gln	Asn	Thr	Ser	Trp	Pro	Glu	Leu	Met	Leu		
				11880					11885					11890		
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Tyr	Gly	His	Glu	Leu	Tyr	Arg	Thr	Phe	Glu	Ser	Tyr	Lys	Met	Asp		
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tca	cgt	att	gcc	cgc	gcg	ttg	cgt	gag	aga	gtc	ata	cgt	gga	gaa	121589	
Ser	Arg	Ile	Ala	Arg	Ala	Leu	Arg	Glu	Arg	Val	Ile	Arg	Gly	Glu		
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Ser	Leu	Ile	Glu	Ala	Leu	Glu	Ser	Ala	Asp	Glu	Leu	Leu	Thr	Trp		
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Ile	Lys	Met	Leu	Ala	Ala	Lys	Asn	Leu	Pro	Ile	Tyr	Thr	Asn	Asn		
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ccc	att	gtt	gca	acc	tcg	aag	tca	ctt	ttg	gag	aat	tta	aag	tta	121724	
Pro	Ile	Val	Ala	Thr	Ser	Lys	Ser	Leu	Leu	Glu	Asn	Leu	Lys	Leu		
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Lys	Leu	Gly	Pro	Phe	Val	Arg	Cys	Leu	Leu	Leu	Asn	Arg	Asp	Asn		
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Asp	Leu	Gly	Ser	Arg	Thr	Leu	Pro	Glu	Leu	Leu	Arg	Gln	Gln	Arg		
				11985					11990					11995		
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Phe	Ser	Asp	Ile	Thr	Cys	Ile	Thr	Thr	Tyr	Met	Phe	Val	Met	Ile		
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gcc	cgc	att	gct	aat	ata	gtt	gtc	cgt	ggc	tct	aaa	ttt	gtg	gaa	121904	

Ala Arg Ile Ala Asn	Ile Val Val Arg Gly	Ser Lys Phe Val Glu	
12015	12020	12025	
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Tyr Asp Asp Ile Ser	Cys Asn Val Gln Val	Leu Gln Glu Tyr Thr	
12030	12035	12040	
ccc ggg tca tgt ctg	gcc ggt gtt tta gag	gcc cta atc acc cac	121994
Pro Gly Ser Cys Leu	Ala Gly Val Leu Glu	Ala Leu Ile Thr His	
12045	12050	12055	
caa cgc gag tgt ggt	cgt gtt gaa tgt acc	ctc tca act tgg gcc	122039
Gln Arg Glu Cys Gly	Arg Val Glu Cys Thr	Leu Ser Thr Trp Ala	
12060	12065	12070	
ggg cat ctt tct gac	gcc cgt cca tac ggt	aaa tat ttt aag tgt	122084
Gly His Leu Ser Asp	Ala Arg Pro Tyr Gly	Lys Tyr Phe Lys Cys	
12075	12080	12085	
agt acc ttt aac tgc	taa aataaaaaaat accttttttca	tgcttggtcaa	122132
Ser Thr Phe Asn Cys			
12090			
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Met Asp Thr Thr Gly	Ala Ser Glu Ser Ser	Gln Pro Ile Arg	
12095	12100		
gtg aat ctt aaa cct gac	cgg ttg gcg tgg ttt	aca caa gtt ata	122524
Val Asn Leu Lys Pro Asp	Pro Leu Ala Ser Phe	Thr Gln Val Ile	
12105	12110	12115	
cgg cca ctg gcg ttg gaa	aca acg tgg aca tgc	cct gcc aac tca	122569
Pro Pro Leu Ala Leu Glu	Thr Thr Trp Thr Cys	Pro Ala Asn Ser	
12120	12125	12130	
cat gca ccg acg cca tcc	cct ctg tac ggt gtt	aag agg tta tgt	122614
His Ala Pro Thr Pro Ser	Pro Leu Tyr Gly Val	Lys Arg Leu Cys	
12135	12140	12145	
gct ctt cga gca aca tgc	ggc cgg gct gat gat	tta cac got ttt	122659
Ala Leu Arg Ala Thr Cys	Gly Arg Ala Asp Asp	Leu His Ala Phe	
12150	12155	12160	
ttg att gga ctt gga cgt	cga gat aaa cca tct	gaa tcc cca atg	122704
Leu Ile Gly Leu Gly Arg	Arg Asp Lys Pro Ser	Glu Ser Pro Met	
12165	12170	12175	
tat gtt gac cta cag ccg	ttt tgc agc ctc cta	aat tcc caa cga	122749
Tyr Val Asp Leu Gln Pro	Phe Cys Ser Leu Leu	Asn Ser Gln Arg	
12180	12185	12190	

ctg tta ccg gaa atg got aat tat aac acc cta tgc gat gca ccc 122794
 Leu Leu Pro Glu Met Ala Asn Tyr Asn Thr Leu Cys Asp Ala Pro
 12195 12200 12205

ttc agc gcc gca act cag cag atg atg ctg gag tcc gga cag ctg 122839
 Phe Ser Ala Ala Thr Gln Gln Met Met Leu Glu Ser Gly Gln Leu
 12210 12215 12220

ggt gta cat ctg gcg gct att ggg tat cac tgt cat tgt aaa tcc 122884
 Gly Val His Leu Ala Ala Ile Gly Tyr His Cys His Cys Lys Ser
 12225 12230 12235

ccc ttc tcg gcg gag tgt tgg acc ggt gca tcc gag gca tac gat 122929
 Pro Phe Ser Ala Glu Cys Trp Thr Gly Ala Ser Glu Ala Tyr Asp
 12240 12245 12250

cat gtt gta tgt ggg gga aaa gcc cga gcg got gtc ggc gga cta 122974
 His Val Val Cys Gly Gly Lys Ala Arg Ala Ala Val Gly Gly Leu
 12255 12260 12265

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gotgttgacg gggggatcct ttcaatatcc cagcaatgtt ggaaactgtt ggtcttccct 123147

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cgatattctc ccaaaacata agacgttgca tatgcatatc ataaatatta ccccgccata 123327

aacagagatc tctgttactt aaaccgtgtg tgccggagaaa tgtaccata gatggagcca 123387

gtaaatgcaa gcccgtaacca cattcatacc caagcgttgt ggatcgcttt tcttccatcg 123447

ccaaaataat aaatgtcctt gcacctccag gogtcattgc acgcccattt agaogggcaa 123507

ggctaagacg ttgcgcgggt ttgtatatatt tgccaataat tacatagggt ttggtacagg 123567

taatgtgtaa cgttctcccg cctggcaggt ctacagttct ccccgcaagg actcgtaata 123627

aacatcggtt ttctgacgcg ggattttcct cggcggtggo gtttaaaactg ggacgcacca 123687

gagtggagcc cataataaat gcgggaacat gcccatatgc aagtgtctca gaaattacat 123747

gcattttatg attttacggg ggtgggttac gataatagct attaaacaaa ccccataaa 123807

agcatttttt gtagaacctt tattgggttaa cacagtcctt tcacgtgaca ggcaatgtat 123867

aaataacgta cggatgcaat taagatgtat cgcacataaa tttatataag ctgtagcaaa 123927

gtataagcaa atcctgttaa tatttatatt ttgggatccg ca atg tcc agg gta 123981
 Met Ser Arg Val
 12270

tcg gag tat ggg gta ccg gaa ggt gtt cgg gaa tct gat agc gat 124026
 Ser Glu Tyr Gly Val Pro Glu Gly Val Arg Glu Ser Asp Ser Asp
 12275 12280 12285

aca gac tct gtg ttt atg tat cag cat aca gag ctt atg cag aac 124071
Thr Asp Ser Val Phe Met Tyr Gln His Thr Glu Leu Met Gln Asn
12290 12295 12300

att cca ctg gtt gat gtc cca agg cca cga tcc cgg aga aag gcg 124161
Ile Pro Leu Val Asp Val Pro Arg Pro Arg Ser Arg Arg Lys Ala
12320 12325 12330

ggt gta gta ctc cag atg gcg acg ttg gct ttg gtg aca tat ata 124251
Gly Val Val Leu Gln Met Ala Thr Leu Ala Leu Val Thr Tyr Ile
12350 12355 12360

ataccttccc cttccggaca gtagtttcat gtagttgagt tgggaggttc ctccgggaaaa 124356

taagcgcagt ctaggcaatc gtaagactgt tgggtggtgc cattctccac gtgaggaaaa 124536

gcctcggcgt atgtgggtag gtaggggatg ggggtcgcaa cgtcatccat gctgggggac 124656

gcagtaaacy aggggtggac gcaaaaggcg cgggttttgt taaaggctgg cggggggggg 124776

ggtcgctttt ttttttctct ctcgaggggg ccgcgagagg gctggcct 124884

<210> 52

<400> 52

Met Phe Cys Thr Ser Pro Ala Thr Arg Gly Asp Ser Ser Glu Ser Lys
1 5 10 15

Pro Gly Pro Leu Asn Gly Arg Asp Thr Ser Arg Gly Pro Gly Ala Phe
35 40 45

Cys Thr Pro Gly Trp Glu Ile His Pro Ala Arg Leu Val Glu Asp Ile
50 55 60

Asn Arg Val Phe Leu Cys Ile Ala Gln Ser Ser Gly Arg Val Thr Arg
65 70 75 80

Asp Ser Arg Arg Leu Arg Arg Ile Cys Leu Asp Phe Tyr Leu Met Gly
85 90 95

Arg Thr Arg Gln Arg Pro Thr Leu Ala Cys Trp Glu Glu Leu Leu Gln
100 105 110

Leu Gln Pro Thr Gln Thr Gln Cys Leu Arg Ala Thr Leu Met Glu Val
115 120 125

Ser His Arg Pro Pro Arg Gly Glu Asp Gly Phe Ile Glu Ala Pro Asn
130 135 140

Val Pro Leu His Arg Ser Ala Leu Glu Cys Asp Val Ser Asp Asp Gly
145 150 155 160

Gly Glu Asp Asp Ser Asp Asp Asp Gly Ser Thr Pro Ser Asp Val Ile
165 170 175

Glu Phe Arg Asp Ser Asp Ala Glu Ser Ser Asp Gly Glu Asp Phe Ile
180 185 190

Val Glu Glu Glu Ser Glu Glu Ser Thr Asp Ser Cys Glu Pro Asp Gly
195 200 205

Val Pro Gly Asp Cys Tyr Arg Asp Gly Asp Gly Cys Asn Thr Pro Ser
210 215 220

Pro Lys Arg Pro Gln Arg Ala Ile Glu Arg Tyr Ala Gly Ala Glu Thr
225 230 235 240

Ala Glu Tyr Thr Ala Ala Lys Ala Leu Thr Ala Leu Gly Glu Gly Gly
245 250 255

Val Asp Trp Lys Arg Arg Arg His Glu Ala Pro Arg Arg His Asp Ile
260 265 270

Pro Pro Pro His Gly Val
275

<210> 53
<211> 180
<212> PRT
<213> Varicella zoster

<400> 53

Met Asn Leu Cys Gly Ser Arg Gly Glu His Pro Gly Gly Glu Tyr Ala
1 5 10 15

Gly Leu Tyr Cys Thr Arg His Asp Thr Pro Ala His Gln Ala Leu Met
20 25 30

Asn Asp Ala Glu Arg Tyr Phe Ala Ala Ala Leu Cys Ala Ile Ser Thr
35 40 45

Glu Ala Tyr Glu Ala Phe Ile His Ser Pro Ser Glu Arg Pro Cys Ala
50 55 60

Ser Leu Trp Gly Arg Ala Lys Asp Ala Phe Gly Arg Met Cys Gly Glu
65 70 75 80

Leu Ala Ala Asp Arg Gln Arg Pro Pro Ser Val Pro Pro Ile Arg Arg
85 90 95

Ala Val Leu Ser Leu Leu Arg Glu Gln Cys Met Pro Asp Pro Gln Ser
100 105 110

His Leu Glu Leu Ser Glu Arg Leu Ile Leu Met Ala Tyr Trp Cys Cys
115 120 125

Leu Gly His Ala Gly Leu Pro Thr Ile Gly Leu Ser Pro Asp Asn Lys
130 135 140

Cys Ile Arg Ala Glu Leu Tyr Asp Arg Pro Gly Gly Ile Cys His Arg
145 150 155 160

Leu Phe Asp Ala Tyr Leu Gly Cys Gly Ser Leu Gly Val Pro Arg Thr
165 170 175

Tyr Glu Arg Ser
180

<210> 54
 <211> 102
 <212> PRT
 <213> Varicella zoster

<400> 54

Met Ala Gly Gln Asn Thr Met Glu Gly Glu Ala Val Ala Leu Leu Met
 1 5 10 15

Glu Ala Val Val Thr Pro Arg Ala Gln Pro Asn Asn Thr Thr Ile Thr
 20 25 30

Ala Ile Gln Pro Ser Arg Ser Ala Glu Lys Cys Tyr Tyr Ser Asp Ser
 35 40 45

Glu Asn Glu Thr Ala Asp Glu Phe Leu Arg Arg Ile Gly Lys Tyr Gln
 50 55 60

His Lys Ile Tyr His Arg Lys Lys Phe Cys Tyr Ile Thr Leu Ile Ile
 65 70 75 80

Val Phe Val Phe Ala Met Thr Gly Ala Ala Phe Ala Leu Gly Tyr Ile
 85 90 95

Thr Ser Gln Phe Val Gly
 100

<210> 55
 <211> 1310
 <212> PRT
 <213> Varicella zoster

<400> 55

Met Asp Thr Pro Pro Met Gln Arg Ser Thr Pro Gln Arg Ala Gly Ser
 1 5 10 15

Pro Asp Thr Leu Glu Leu Met Asp Leu Leu Asp Ala Ala Ala Ala Ala
 20 25 30

Ala Glu His Arg Ala Arg Val Val Thr Ser Ser Gln Pro Asp Asp Leu
 35 40 45

Leu Phe Gly Glu Asn Gly Val Met Val Gly Arg Glu His Glu Ile Val
 50 55 60

Ser Ile Pro Ser Val Ser Gly Leu Gln Pro Glu Pro Arg Thr Glu Asp
 65 70 75 80

Val	Gly	Glu	Glu	Leu	Thr	Gln	Asp	Asp	Tyr	Val	Cys	Glu	Asp	Gly	Gln	
				85					90					95		
Asp	Leu	Met	Gly	Ser	Pro	Val	Ile	Pro	Leu	Ala	Glu	Val	Phe	His	Thr	
			100					105					110			
Arg	Phe	Ser	Glu	Ala	Gly	Ala	Arg	Glu	Pro	Thr	Gly	Ala	Asp	Arg	Ser	
		115					120					125				
Leu	Glu	Thr	Val	Ser	Leu	Gly	Thr	Lys	Leu	Ala	Arg	Ser	Pro	Lys	Pro	
	130					135					140					
Pro	Met	Asn	Asp	Gly	Glu	Thr	Gly	Arg	Gly	Thr	Thr	Pro	Pro	Phe	Pro	
145					150					155					160	
Gln	Ala	Phe	Ser	Pro	Val	Ser	Pro	Ala	Ser	Pro	Val	Gly	Asp	Ala	Ala	
				165					170					175		
Gly	Asn	Asp	Gln	Arg	Glu	Asp	Gln	Arg	Ser	Ile	Pro	Arg	Gln	Thr	Thr	
			180					185					190			
Arg	Gly	Asn	Ser	Pro	Gly	Leu	Pro	Ser	Val	Val	His	Arg	Asp	Arg	Gln	
		195					200					205				
Thr	Gln	Ser	Ile	Ser	Gly	Lys	Lys	Pro	Gly	Asp	Glu	Gln	Ala	Gly	His	
	210					215					220					
Ala	His	Ala	Ser	Gly	Asp	Gly	Val	Val	Leu	Gln	Lys	Thr	Gln	Arg	Pro	
225					230					235					240	
Ala	Gln	Gly	Lys	Ser	Pro	Lys	Lys	Lys	Thr	Leu	Lys	Val	Lys	Val	Pro	
				245					250					255		
Leu	Pro	Ala	Arg	Lys	Pro	Gly	Gly	Pro	Val	Pro	Gly	Pro	Val	Glu	Gln	
			260					265					270			
Leu	Tyr	His	Val	Leu	Ser	Asp	Ser	Val	Pro	Ala	Lys	Gly	Ala	Lys	Ala	
		275					280					285				
Asp	Leu	Pro	Phe	Glu	Thr	Asp	Asp	Thr	Arg	Pro	Arg	Lys	His	Asp	Ala	
	290					295					300					
Arg	Gly	Ile	Thr	Pro	Arg	Val	Pro	Gly	Arg	Ser	Ser	Gly	Gly	Lys	Pro	
305					310					315					320	

Arg Ala Phe Leu Ala Leu Pro Gly Arg Ser His Ala Pro Asp Pro Ile
325 330 335

Glu Asp Asp Ser Pro Val Glu Lys Lys Pro Lys Ser Arg Glu Phe Val
340 345 350

Ser Ser Ser Ser Ser Ser Ser Ser Trp Gly Ser Ser Ser Glu Asp Glu
355 360 365

Asp Asp Glu Pro Arg Arg Val Ser Val Gly Ser Glu Thr Thr Gly Ser
370 375 380

Arg Ser Gly Arg Glu His Ala Pro Ser Pro Ser Asn Ser Asp Asp Ser
385 390 395 400

Asp Ser Asn Asp Gly Gly Ser Thr Lys Gln Asn Ile Gln Pro Gly Tyr
405 410 415

Arg Ser Ile Ser Gly Pro Asp Pro Arg Ile Arg Lys Thr Lys Arg Leu
420 425 430

Ala Gly Glu Pro Gly Arg Gln Arg Gln Lys Ser Phe Ser Leu Pro Arg
435 440 445

Ser Arg Thr Pro Ile Ile Pro Pro Val Ser Gly Pro Leu Met Met Pro
450 455 460

Asp Gly Ser Pro Trp Pro Gly Ser Ala Pro Leu Pro Ser Asn Arg Val
465 470 475 480

Arg Phe Gly Pro Ser Gly Glu Thr Arg Glu Gly His Trp Glu Asp Glu
485 490 495

Ala Val Arg Ala Ala Arg Ala Arg Tyr Glu Ala Ser Thr Glu Pro Val
500 505 510

Pro Leu Tyr Val Pro Glu Leu Gly Asp Pro Ala Arg Gln Tyr Arg Ala
515 520 525

Leu Ile Asn Leu Ile Tyr Cys Pro Asp Arg Asp Pro Ile Ala Trp Leu
530 535 540

Gln Asn Pro Lys Leu Thr Gly Val Asn Ser Ala Leu Asn Gln Phe Tyr
545 550 555 560

Gln	Lys	Leu	Leu	Pro	Pro	Gly	Arg	Ala	Gly	Thr	Ala	Val	Thr	Gly	Ser		
				565					570					575			
Val	Ala	Ser	Pro	Val	Pro	His	Val	Gly	Glu	Ala	Met	Ala	Thr	Gly	Glu		
			580					585					590				
Ala	Leu	Trp	Ala	Leu	Pro	His	Ala	Ala	Ala	Ala	Val	Ala	Met	Ser	Arg		
		595					600					605					
Arg	Tyr	Asp	Arg	Ala	Gln	Lys	His	Phe	Ile	Leu	Gln	Ser	Leu	Arg	Arg		
	610					615					620						
Ala	Phe	Ala	Ser	Met	Ala	Tyr	Pro	Glu	Ala	Thr	Gly	Ser	Ser	Pro	Ala		
625					630					635					640		
Ala	Arg	Ile	Ser	Arg	Gly	His	Pro	Ser	Pro	Thr	Thr	Pro	Ala	Thr	Gln		
				645					650					655			
Ala	Pro	Asp	Pro	Gln	Pro	Ser	Ala	Ala	Ala	Arg	Ser	Leu	Ser	Val	Cys		
			660					665					670				
Pro	Pro	Asp	Asp	Arg	Leu	Arg	Thr	Pro	Arg	Lys	Arg	Lys	Ser	Gln	Pro		
		675					680					685					
Val	Glu	Ser	Arg	Ser	Leu	Leu	Asp	Lys	Ile	Arg	Glu	Thr	Pro	Val	Ala		
	690					695					700						
Asp	Ala	Arg	Val	Ala	Asp	Asp	His	Val	Val	Ser	Lys	Ala	Lys	Arg	Arg		
705					710					715					720		
Val	Ser	Glu	Pro	Val	Thr	Ile	Thr	Ser	Gly	Pro	Val	Val	Asp	Pro	Pro		
				725					730					735			
Ala	Val	Ile	Thr	Met	Pro	Leu	Asp	Gly	Pro	Ala	Pro	Asn	Gly	Gly	Phe		
			740					745					750				
Arg	Arg	Ile	Pro	Arg	Gly	Ala	Leu	His	Thr	Pro	Val	Pro	Ser	Asp	Gln		
		755					760					765					
Ala	Arg	Lys	Ala	Tyr	Cys	Thr	Pro	Glu	Thr	Ile	Ala	Arg	Leu	Val	Asp		
	770					775					780						
Asp	Pro	Leu	Phe	Pro	Thr	Ala	Trp	Arg	Pro	Ala	Leu	Ser	Phe	Asp	Pro		
785					790					795					800		

Gly Ala Leu Ala Glu Ile Ala Ala Arg Arg Pro Gly Gly Gly Asp Arg
805 810 815

Arg Phe Gly Pro Pro Ser Gly Val Glu Ala Leu Arg Arg Arg Cys Ala
820 825 830

Trp Met Arg Gln Ile Pro Asp Pro Glu Asp Val Arg Leu Leu Ile Ile
835 840 845

Tyr Asp Pro Leu Pro Gly Glu Asp Ile Asn Gly Pro Leu Glu Ser Thr
850 855 860

Leu Ala Thr Asp Pro Gly Pro Ser Trp Ser Pro Ser Arg Gly Gly Leu
865 870 875 880

Ser Val Val Leu Ala Ala Leu Ser Asn Arg Leu Cys Leu Pro Ser Thr
885 890 895

His Ala Trp Ala Gly Asn Trp Thr Gly Pro Pro Asp Val Ser Ala Leu
900 905 910

Asn Ala Arg Gly Val Leu Leu Leu Ser Thr Arg Asp Leu Ala Phe Ala
915 920 925

Gly Ala Val Glu Tyr Leu Gly Ser Arg Leu Ala Ser Ala Arg Arg Arg
930 935 940

Leu Leu Val Leu Asp Ala Val Ala Leu Glu Arg Trp Pro Arg Asp Gly
945 950 955 960

Pro Ala Leu Ser Gln Tyr His Val Tyr Val Arg Ala Pro Ala Arg Pro
965 970 975

Asp Ala Gln Ala Val Val Arg Trp Pro Asp Ser Ala Val Thr Glu Gly
980 985 990

Leu Ala Arg Ala Val Phe Ala Ser Ser Arg Thr Phe Gly Pro Ala Ser
995 1000 1005

Phe Ala Arg Ile Glu Thr Ala Phe Ala Asn Leu Tyr Pro Gly Glu
1010 1015 1020

Gln Pro Leu Cys Leu Cys Arg Gly Gly Asn Val Ala Tyr Thr Val
1025 1030 1035

Cys	Thr	Arg	Ala	Gly	Pro	Lys	Thr	Arg	Val	Pro	Leu	Ser	Pro	Arg
1040						1045					1050			
Glu	Tyr	Arg	Gln	Tyr	Val	Leu	Pro	Gly	Phe	Asp	Gly	Cys	Lys	Asp
1055						1060					1065			
Leu	Ala	Arg	Gln	Ser	Arg	Gly	Leu	Gly	Leu	Gly	Ala	Ala	Asp	Phe
1070						1075					1080			
Val	Asp	Glu	Ala	Ala	His	Ser	His	Arg	Ala	Ala	Asn	Arg	Trp	Gly
1085						1090					1095			
Leu	Gly	Ala	Ala	Leu	Arg	Pro	Val	Phe	Leu	Pro	Glu	Gly	Arg	Arg
1100						1105					1110			
Pro	Gly	Ala	Ala	Gly	Pro	Glu	Ala	Gly	Asp	Val	Pro	Thr	Trp	Ala
1115						1120					1125			
Arg	Val	Phe	Cys	Arg	His	Ala	Leu	Leu	Glu	Pro	Asp	Pro	Ala	Ala
1130						1135					1140			
Glu	Pro	Leu	Val	Leu	Pro	Pro	Val	Ala	Gly	Arg	Ser	Val	Ala	Leu
1145						1150					1155			
Tyr	Ala	Ser	Ala	Asp	Glu	Ala	Arg	Asn	Ala	Leu	Pro	Pro	Ile	Pro
1160						1165					1170			
Arg	Val	Met	Trp	Pro	Pro	Gly	Phe	Gly	Ala	Ala	Glu	Thr	Val	Leu
1175						1180					1185			
Glu	Gly	Ser	Asp	Gly	Thr	Arg	Phe	Val	Phe	Gly	His	His	Gly	Gly
1190						1195					1200			
Ser	Glu	Arg	Pro	Ser	Glu	Thr	Gln	Ala	Gly	Arg	Gln	Arg	Arg	Thr
1205						1210					1215			
Ala	Asp	Asp	Arg	Glu	His	Ala	Leu	Glu	Leu	Asp	Asp	Trp	Glu	Val
1220						1225					1230			
Gly	Cys	Glu	Asp	Ala	Trp	Asp	Ser	Glu	Glu	Gly	Gly	Gly	Asp	Asp
1235						1240					1245			
Gly	Asp	Ala	Pro	Gly	Ser	Ser	Phe	Gly	Val	Ser	Ile	Val	Ser	Val
1250						1255					1260			

Ala Pro Gly Val Leu Arg Asp Arg Arg Val Gly Leu Arg Pro Ala
 1265 1270 1275

Val Lys Val Glu Leu Leu Ser Ser Ser Ser Ser Ser Glu Asp Glu
 1280 1285 1290

Asp Asp Val Trp Gly Gly Arg Gly Gly Arg Ser Pro Pro Gln Ser
 1295 1300 1305

Arg Gly
 1310

<210> 56
 <211> 467
 <212> PRT
 <213> Varicella zoster

<400> 56

Met Asp Thr Ile Leu Ala Gly Gly Ser Gly Thr Ser Asp Ala Ser Asp
 1 5 10 15

Asn Thr Cys Thr Ile Cys Met Ser Thr Val Ser Asp Leu Gly Lys Thr
 20 25 30

Met Pro Cys Leu His Asp Phe Cys Phe Val Cys Ile Arg Ala Trp Thr
 35 40 45

Ser Thr Ser Val Gln Cys Pro Leu Cys Arg Cys Pro Val Gln Ser Ile
 50 55 60

Leu His Lys Ile Val Ser Asp Thr Ser Tyr Lys Glu Tyr Glu Val His
 65 70 75 80

Pro Ser Asp Asp Asp Gly Phe Ser Glu Pro Ser Phe Glu Asp Ser Ile
 85 90 95

Asp Ile Leu Pro Gly Asp Val Ile Asp Leu Leu Pro Pro Ser Pro Gly
 100 105 110

Pro Ser Arg Glu Ser Ile Gln Gln Pro Thr Ser Arg Ser Ser Arg Glu
 115 120 125

Pro Ile Gln Ser Pro Asn Pro Gly Pro Leu Gln Ser Ser Ala Arg Glu
 130 135 140

Pro Thr Ala Glu Ser Pro Ser Asp Ser Gln Gln Asp Ser Ile Gln Pro
145 150 155 160

Pro Thr Arg Asp Ser Ser Pro Gly Val Thr Lys Thr Cys Ser Thr Ala
165 170 175

Ser Phe Leu Arg Lys Val Phe Phe Lys Asp Gln Pro Ala Val Arg Ser
180 185 190

Ala Thr Pro Val Val Tyr Gly Ser Ile Glu Ser Ala Gln Gln Pro Arg
195 200 205

Thr Gly Gly Gln Asp Tyr Arg Asp Arg Pro Val Ser Val Gly Ile Asn
210 215 220

Gln Asp Pro Arg Thr Met Asp Arg Leu Pro Phe Arg Ala Thr Asp Arg
225 230 235 240

Gly Thr Glu Gly Asn Ala Arg Phe Pro Cys Tyr Met Gln Pro Leu Leu
245 250 255

Gly Trp Leu Asp Asp Gln Leu Ala Glu Leu Tyr Gln Pro Glu Ile Val
260 265 270

Glu Pro Thr Lys Met Leu Ile Leu Asn Tyr Ile Gly Ile Tyr Gly Arg
275 280 285

Asp Glu Ala Gly Leu Lys Thr Ser Leu Arg Cys Leu Leu His Asp Ser
290 295 300

Thr Gly Pro Phe Val Thr Asn Met Leu Phe Leu Leu Asp Arg Cys Thr
305 310 315 320

Asp Pro Thr Arg Leu Thr Met Gln Thr Trp Thr Trp Lys Asp Thr Ala
325 330 335

Ile Gln Leu Ile Thr Gly Pro Ile Val Arg Pro Glu Thr Thr Ser Thr
340 345 350

Gly Glu Thr Ser Arg Gly Asp Glu Arg Asp Thr Arg Leu Val Asn Thr
355 360 365

Pro Gln Lys Val Arg Leu Phe Ser Val Leu Pro Gly Ile Lys Pro Gly
370 375 380

Ser Ala Arg Gly Ala Lys Arg Arg Leu Phe His Thr Gly Arg Asp Val
385 390 395 400

Lys Arg Cys Leu Thr Ile Asp Leu Thr Ser Glu Ser Asp Ser Ala Cys
405 410 415

Lys Gly Ser Lys Thr Arg Lys Val Ala Ser Pro Gln Gly Glu Ser Asn
420 425 430

Thr Pro Ser Thr Ser Gly Ser Thr Ser Gly Ser Leu Lys His Leu Thr
435 440 445

Lys Lys Ser Ser Ala Gly Lys Ala Gly Lys Gly Ile Pro Asn Lys Met
450 455 460

Lys Lys Ser
465

<210> 57
<211> 305
<212> PRT
<213> Varicella zoster

<400> 57

Met Asp Val Ser Gly Glu Pro Thr Val Cys Ser Asn Ala Tyr Ala Asn
1 5 10 15

Glu Met Lys Leu Ser Asp Ser Lys Asp Ile Tyr Val Leu Ala His Pro
20 25 30

Val Thr Lys Lys Thr Arg Lys Arg Pro Arg Gly Leu Pro Leu Gly Val
35 40 45

Lys Leu Asp Pro Pro Thr Phe Lys Leu Asn Asn Met Ser His His Tyr
50 55 60

Asp Thr Glu Thr Phe Thr Pro Val Ser Ser Gln Leu Asp Ser Val Glu
65 70 75 80

Val Phe Ser Lys Phe Asn Ile Ser Pro Glu Trp Tyr Asp Leu Leu Ser
85 90 95

Asp Glu Leu Lys Glu Pro Tyr Ala Lys Gly Ile Phe Leu Glu Tyr Asn
100 105 110

Arg Leu Leu Asn Ser Gly Glu Glu Ile Leu Pro Ser Thr Gly Asp Ile
115 120 125

Phe Ala Trp Thr Arg Phe Cys Gly Pro Gln Ser Ile Arg Val Val Ile
130 135 140

Ile Gly Gln Asp Pro Tyr Pro Thr Ala Gly His Ala His Gly Leu Ala
145 150 155 160

Phe Ser Val Lys Arg Gly Ile Thr Pro Pro Ser Ser Leu Lys Asn Ile
165 170 175

Phe Ala Ala Leu Met Glu Ser Tyr Pro Asn Met Thr Pro Pro Thr His
180 185 190

Gly Cys Leu Glu Ser Trp Ala Arg Gln Gly Val Leu Leu Leu Asn Thr
195 200 205

Thr Leu Thr Val Arg Arg Gly Thr Pro Gly Ser His Val Tyr Leu Gly
210 215 220

Trp Gly Arg Leu Val Gln Arg Val Leu Gln Arg Leu Cys Glu Asn Arg
225 230 235 240

Thr Gly Leu Val Phe Met Leu Trp Gly Ala His Ala Gln Lys Thr Thr
245 250 255

Gln Pro Asn Ser Arg Cys His Leu Val Leu Thr His Ala His Pro Ser
260 265 270

Pro Leu Ser Arg Val Pro Phe Arg Asn Cys Arg His Phe Val Gln Ala
275 280 285

Asn Glu Tyr Phe Thr Arg Lys Gly Glu Pro Glu Ile Asp Trp Ser Val
290 295 300

Ile
305

<210> 58
<211> 71
<212> FRT
<213> Varicella zoster

<400> 58

Met Asp Val Arg Glu Arg Asn Val Phe Gly Asn Ala Ser Val Ala Thr

1	5	10	15
Pro Gly Glu His Gln Lys Phe Val Arg Glu Leu Ile Leu Ser Gly His	20	25	30
Asn Asn Val Val Leu Gln Thr Tyr Thr Gly Lys Trp Ser Asp Cys Arg	35	40	45
Lys His Gly Lys Ser Val Met Tyr Asn Thr Gly Glu Ala Arg His Pro	50	55	60
Thr Cys Lys Ala His Gln Arg	65	70	

<210> 59
 <211> 331
 <212> PRT
 <213> Varicella zoster

<400> 59

Met Gln Arg Ile Arg Pro Tyr Trp Ile Lys Phe Glu Gln Thr Gly Gly	1	5	10	15
Ala Gly Met Ala Asp Gly Met Ser Gly Ile Asn Ile Pro Ser Ile Leu	20	25	30	
Gly Cys Ser Val Thr Ile Asp Asn Leu Leu Thr Arg Ala Glu Glu Gly	35	40	45	
Leu Asp Val Ser Asp Val Ile Glu Asp Leu Arg Ile Gln Ala Ile Pro	50	55	60	
Arg Phe Val Cys Glu Ala Arg Glu Val Thr Gly Leu Lys Pro Arg Phe	65	70	75	80
Leu Ala Asn Ser Val Val Ser Leu Arg Val Lys Pro Glu His Gln Glu	85	90	95	
Thr Val Leu Val Val Leu Asn Gly Asp Ser Ser Glu Val Ser Cys Asp	100	105	110	
Arg Tyr Tyr Met Glu Cys Val Thr Gln Pro Ala Phe Arg Gly Phe Ile	115	120	125	
Phe Ser Val Leu Thr Ala Val Glu Asp Arg Val Tyr Thr Val Gly Val	130	135	140	

Pro Pro Arg Leu Leu Ile Tyr Arg Met Thr Leu Phe Arg Pro Asp Asn
 145 150 155 160

Val Leu Asp Phe Thr Leu Cys Val Ile Leu Met Tyr Leu Glu Gly Ile
 165 170 175

Gly Pro Ser Gly Ala Ser Pro Ser Leu Phe Val Gln Leu Ser Val Tyr
 180 185 190

Leu Arg Arg Val Glu Cys Gln Ile Gly Pro Leu Glu Lys Met Arg Arg
 195 200 205

Phe Leu Tyr Glu Gly Val Leu Trp Leu Leu Asn Thr Leu Met Tyr Val
 210 215 220

Val Asp Asn Asn Pro Phe Thr Lys Thr Arg Val Leu Pro His Tyr Met
 225 230 235 240

Phe Val Lys Leu Leu Asn Pro Gln Pro Gly Thr Ala Pro Asn Ile Ile
 245 250 255

Lys Ala Ile Tyr Ser Cys Gly Val Gly Gln Arg Phe Asp Leu Pro His
 260 265 270

Gly Thr Pro Pro Cys Pro Asp Gly Val Val Gln Val Pro Pro Gly Leu
 275 280 285

Leu Asn Gly Pro Leu Arg Asp Ser Glu Tyr Gln Lys Ser Val Tyr Phe
 290 295 300

Trp Trp Leu Asn Arg Thr Met Val Thr Pro Lys Asn Val Gln Leu Phe
 305 310 315 320

Glu Thr Tyr Lys Asn Ser Pro Arg Val Val Lys
 325 330

<210> 60
 <211> 541
 <212> PRT
 <213> Varicella zoster

<400> 60

Met Glu Phe Pro Tyr His Ser Thr Val Ser Tyr Asn Gly Val Thr Phe
 1 5 10 15

Tyr	Phe	Asn	Glu	Arg	Ala	Thr	Arg	Ala	Tyr	Phe	Ile	Cys	Gly	Gly	Cys	20	25	30	
Leu	Ile	Ser	Ile	Pro	Arg	Lys	His	Gly	Gly	Glu	Ile	Ala	Lys	Phe	Gly	35	40	45	
His	Val	Val	Arg	Gly	Val	Gly	Pro	Gly	Asp	Arg	Ser	Val	Ala	Ser	Tyr	50	55	60	
Val	Arg	Ser	Glu	Leu	Asn	Arg	Thr	Gly	Lys	Thr	Trp	Ala	Val	Ser	Ser	65	70	75	80
Asn	Asn	Asn	Cys	Val	Phe	Leu	Asp	Arg	Val	Ala	Leu	Leu	Ala	Ala	Gly	85	90	95	
Ser	Gly	Ala	Val	Asp	Arg	Asp	Leu	Cys	Gly	Thr	Phe	Asp	Val	Glu	Val	100	105	110	
Glu	Asp	Pro	Thr	Leu	Ala	Asp	Tyr	Leu	Val	Ser	Leu	Pro	Val	Thr	His	115	120	125	
Leu	Thr	Leu	Val	Ala	Gly	Val	Asp	Val	Thr	Arg	Glu	Asn	Lys	Leu	Lys	130	135	140	
Leu	Phe	Pro	Thr	Pro	Thr	Ala	Ile	Asn	Thr	Thr	Asn	Gly	Phe	Met	Tyr	145	150	155	160
Val	Pro	Asn	Glu	Ala	Ser	Phe	Ser	Leu	Val	Tyr	Met	Arg	Met	Leu	Glu	165	170	175	
Leu	Pro	Glu	Ser	Leu	Gln	Glu	Leu	Val	Ser	Gly	Leu	Phe	Asp	Gly	Thr	180	185	190	
Pro	Glu	Ile	Arg	Asp	Ala	Leu	Asn	Gly	Ser	Asn	Asp	Asp	Glu	Lys	Thr	195	200	205	
Ser	Ile	Ile	Val	Ser	Arg	Arg	Ala	Ala	Asp	Val	Val	Thr	Glu	Asp	Val	210	215	220	
Lys	Ala	Asp	Asp	Val	Pro	Ile	Ser	Gly	Glu	Pro	Tyr	Ser	Glu	Lys	Gln	225	230	235	240
Pro	Arg	Arg	Arg	Lys	Lys	Ser	Asp	His	Ile	Thr	Leu	Ser	Asn	Phe	Val	245	250	255	

Gln Ile Arg Thr Ile Pro Arg Val Met Asp Ile Trp Asp Pro Arg His
260 265 270

Lys Ala Thr Thr His Cys Ile Arg Ala Leu Ser Cys Ala Val Phe Phe
275 280 285

Ala Asp Glu Val Ile Phe Lys Ala Arg Lys Trp Pro Gly Leu Glu Asp
290 295 300

Glu Leu Asn Glu Ala Arg Glu Thr Ile Tyr Thr Ala Val Val Ala Val
305 310 315 320

Tyr Gly Glu Arg Gly Glu Leu Pro Phe Phe Gly His Ala Tyr Gly Arg
325 330 335

Asp Leu Thr Ser Cys Gln Arg Phe Val Ile Val Gln Tyr Ile Leu Ser
340 345 350

Arg Trp Glu Ala Phe Asn Cys Tyr Ala Val Ile Glu Asp Leu Thr Arg
355 360 365

Ser Tyr Val Asn Ala Leu Pro Ser Asp Asp Asp Thr Asp Gln Val Ala
370 375 380

Gln Asp Leu Ile Arg Thr Ile Val Asp Thr Ala Asn Ser Leu Leu Arg
385 390 395 400

Glu Val Gly Phe Ile Gly Thr Leu Ala Glu Thr Leu Leu Phe Leu Pro
405 410 415

Leu Pro Gln Leu Pro Cys Tyr Lys Glu Thr Ser His Leu Ala Lys Lys
420 425 430

Glu Gly Val Arg Ile Leu Arg Leu Ala Lys Thr Gly Val Gly Leu Ser
435 440 445

Asp Thr Val Pro Val Asp Val Ser Val Thr Glu Arg His Glu Tyr Glu
450 455 460

Ile Ser Arg Tyr Leu Asp Thr Leu Tyr Ser Gly Asp Pro Cys Tyr Asn
465 470 475 480

Gly Ala Val Arg Leu Cys Arg Leu Leu Gly Ser Ser Ile Pro Ile Ala
485 490 495

Leu Tyr Tyr Asn Thr Ile Ser Gly Asn Ala Phe Glu Pro Tyr Phe Ala
500 505 510

Gly Arg Arg Tyr Ile Ala Tyr Leu Gly Ala Leu Phe Phe Gly Arg Val
515 520 525

His Gln Thr Pro Phe Gly Asp Gly Lys Lys Thr Gln Arg
530 535 540

<210> 61
<211> 258
<212> PRT
<213> Varicella zoster

<400> 61

Met Ser Ala Ser Arg Ile Arg Ala Lys Cys Phe Arg Leu Gly Gln Arg
1 5 10 15

Cys His Thr Arg Phe Tyr Asp Val Leu Lys Lys Asp Ile Asp Asn Val
20 25 30

Arg Arg Gly Phe Ala Asp Ala Phe Asn Pro Arg Leu Ala Lys Leu Leu
35 40 45

Ser Pro Leu Ser His Val Asp Val Gln Arg Ala Val Arg Ile Ser Met
50 55 60

Ser Phe Glu Val Asn Leu Gly Arg Arg Arg Pro Asp Cys Val Cys Ile
65 70 75 80

Ile Gln Thr Glu Ser Ser Gly Ala Gly Lys Thr Val Cys Phe Ile Val
85 90 95

Glu Leu Lys Ser Cys Arg Phe Ser Ala Asn Ile His Thr Pro Thr Lys
100 105 110

Tyr His Gln Phe Cys Glu Gly Met Arg Gln Leu Arg Asp Thr Met Ala
115 120 125

Leu Ile Lys Glu Thr Thr Pro Thr Gly Ser Asp Glu Ile Met Val Thr
130 135 140

Pro Leu Leu Val Phe Val Ser Gln Arg Gly Leu Asn Leu Leu Gln Val
145 150 155 160

Thr Arg Leu Pro Pro Lys Val Ile His Gly Asn Leu Val Met Leu Ala
165 170 175

Ser His Leu Glu Asn Val Ala Glu Tyr Thr Pro Pro Ile Arg Ser Val
180 185 190

Arg Glu Arg Arg Arg Leu Cys Lys Lys Lys Ile His Val Cys Ser Leu
195 200 205

Ala Lys Lys Arg Ala Lys Ser Cys His Arg Ser Ala Leu Thr Lys Phe
210 215 220

Glu Glu Asn Ala Ala Cys Gly Val Asp Leu Pro Leu Arg Arg Pro Ser
225 230 235 240

Leu Gly Ala Cys Gly Gly Ile Leu Gln Ser Ile Thr Gly Met Phe Ser
245 250 255

His Gly

<210> 62
<211> 579
<212> PRT
<213> Varicella zoster

<400> 62

Met Thr Ala Arg Tyr Gly Phe Gly Ser Ile Ser Phe Pro Asn Lys Cys
1 5 10 15

Gly Ile Phe Leu Ser Thr Thr Lys Asn Phe Ile Ala Pro Asn Phe Pro
20 25 30

Ile His Tyr Trp Thr Ala Pro Ala Phe Glu Leu Arg Gly Arg Met Asn
35 40 45

Pro Asp Leu Glu Lys Asn Thr Leu Thr Leu Lys Asn Ala Ala Ala Val
50 55 60

Ala Ala Leu Asp Asn Leu Arg Gly Glu Thr Ile Thr Leu Pro Thr Glu
65 70 75 80

Ile Asp Arg Arg Leu Lys Pro Leu Glu Glu Gln Leu Thr Arg Met Ala
85 90 95

Lys Val Leu Asp Ser Leu Glu Thr Ala Ala Ala Glu Ala Glu Glu Ala

	100		105		110											
Asp	Ala	Gln	Ser	Glu	Glu	Cys	Thr	Arg	Thr	Glu	Ile	Ile	Arg	Asn	Glu	
	115						120					125				
Ser	Ile	His	Pro	Glu	Val	Gln	Ile	Ala	Lys	Asn	Asp	Ala	Pro	Leu	Gln	
	130					135					140					
Tyr	Asp	Thr	Asn	Phe	Gln	Val	Asp	Phe	Ile	Thr	Leu	Val	Tyr	Leu	Gly	
145					150					155					160	
Arg	Ala	Arg	Gly	Asn	Asn	Ser	Pro	Gly	Ile	Val	Phe	Gly	Pro	Trp	Tyr	
				165					170					175		
Arg	Thr	Leu	Gln	Glu	Arg	Leu	Val	Leu	Asp	Arg	Pro	Val	Ala	Ala	Arg	
			180					185					190			
Gly	Val	Asp	Cys	Lys	Asp	Gly	Arg	Ile	Ser	Arg	Thr	Phe	Met	Asn	Thr	
	195						200					205				
Thr	Val	Thr	Cys	Leu	Gln	Ser	Ala	Gly	Arg	Met	Tyr	Val	Gly	Asp	Arg	
	210					215					220					
Ala	Tyr	Ser	Ala	Phe	Glu	Cys	Ala	Val	Leu	Cys	Leu	Tyr	Leu	Met	Tyr	
225					230					235					240	
Arg	Thr	Ser	Asn	Ser	Val	His	Glu	Pro	Gln	Val	Ser	Ser	Phe	Gly	Asn	
				245					250					255		
Leu	Ile	Glu	His	Leu	Pro	Glu	Tyr	Thr	Glu	Thr	Phe	Val	Asn	Tyr	Met	
			260					265					270			
Thr	Thr	His	Glu	Asn	Lys	Asn	Ser	Tyr	Gln	Phe	Cys	Tyr	Asp	Arg	Leu	
		275					280					285				
Pro	Arg	Asp	Gln	Phe	His	Ala	Arg	Gly	Gly	Arg	Tyr	Asp	Gln	Gly	Ala	
	290					295					300					
Leu	Thr	Ser	His	Ser	Val	Met	Asp	Ala	Leu	Ile	Arg	Leu	Gln	Val	Leu	
305					310					315					320	
Pro	Pro	Ala	Pro	Gly	Gln	Phe	Asn	Pro	Gly	Val	Asn	Asp	Ile	Ile	Asp	
				325					330					335		
Arg	Asn	His	Thr	Ala	Tyr	Val	Asp	Lys	Ile	Gln	Gln	Ala	Ala	Ala	Ala	

340	345	350
Tyr Leu Glu Arg Ala Gln Asn Val Phe Leu Met Glu Asp Gln Thr Leu		
355	360	365
Leu Arg Leu Thr Ile Asp Thr Ile Thr Ala Leu Leu Leu Leu Arg Arg		
370	375	380
Leu Leu Trp Asn Gly Asn Val Tyr Gly Asp Lys Leu Lys Asn Asn Phe		
385	390	395
Gln Leu Gly Leu Ile Val Ser Glu Ala Thr Gly Thr Pro Thr Asn Asn		
405	410	415
Val Ile Leu Arg Gly Ala Thr Gly Phe Asp Gly Lys Phe Lys Ser Gly		
420	425	430
Asn Asn Asn Phe Gln Phe Leu Cys Glu Arg Tyr Ile Ala Pro Leu Tyr		
435	440	445
Thr Leu Asn Arg Thr Thr Glu Leu Thr Glu Met Phe Pro Gly Leu Val		
450	455	460
Ala Leu Cys Leu Asp Ala His Thr Gln Leu Ser Arg Gly Ser Leu Gly		
465	470	475
Arg Thr Val Ile Asp Ile Ser Ser Gly Gln Tyr Gln Asp Arg Leu Ile		
485	490	495
Ser Leu Ile Ala Leu Glu Leu Glu His Arg Arg Gln Asn Val Thr Ser		
500	505	510
Leu Pro Ile Ala Ala Val Val Ser Ile His Asp Ser Val Met Leu Gln		
515	520	525
Tyr Glu Arg Gly Leu Gly Met Leu Met His Gln Pro Arg Val Arg Ala		
530	535	540
Ala Leu Glu Glu Ser Arg Arg Leu Ala Gln Phe Asn Val Asn Ser Asp		
545	550	555
Tyr Asp Leu Leu Tyr Phe Val Cys Leu Gly Val Ile Pro Gln Phe Ala		
565	570	575
Ser Thr Pro		

<210> 63
 <211> 605
 <212> PRT
 <213> Varicella zoster

<400> 63

Met Ala Ala Glu Ala Asp Glu Glu Asn Cys Glu Ala Leu Tyr Val Ala
 1 5 10 15

Gly Tyr Leu Ala Leu Tyr Ser Lys Asp Glu Gly Glu Leu Asn Ile Thr
 20 25 30

Pro Glu Ile Val Arg Ser Ala Leu Pro Pro Thr Ser Lys Ile Pro Ile
 35 40 45

Asn Ile Asp His Arg Lys Asp Cys Val Val Gly Glu Val Ile Ala Ile
 50 55 60

Ile Glu Asp Ile Arg Gly Pro Phe Phe Leu Gly Ile Val Arg Cys Pro
 65 70 75 80

Gln Leu His Ala Val Leu Phe Glu Ala Ala His Ser Asn Phe Phe Gly
 85 90 95

Asn Arg Asp Ser Val Leu Ser Pro Leu Glu Arg Ala Leu Tyr Leu Val
 100 105 110

Thr Asn Tyr Leu Pro Ser Val Ser Leu Ser Ser Lys Arg Leu Ser Pro
 115 120 125

Asn Glu Ile Pro Asp Gly Asn Phe Phe Thr His Val Ala Leu Cys Val
 130 135 140

Val Gly Arg Arg Val Gly Thr Val Val Asn Tyr Asp Cys Thr Pro Glu
 145 150 155 160

Ser Ser Ile Glu Pro Phe Arg Val Leu Ser Met Glu Ser Lys Ala Arg
 165 170 175

Leu Leu Ser Leu Val Lys Asp Tyr Ala Gly Leu Asn Lys Val Trp Lys
 180 185 190

Val Ser Glu Asp Lys Leu Ala Lys Val Leu Leu Ser Thr Ala Val Asn
 195 200 205

Asn Met Leu Leu Arg Asp Arg Trp Asp Val Val Ala Lys Arg Arg Arg
210 215 220

Glu Ala Gly Ile Met Gly His Val Tyr Leu Gln Ala Ser Thr Gly Tyr
225 230 235 240

Gly Leu Ala Arg Ile Thr Asn Val Asn Gly Val Glu Ser Lys Leu Pro
245 250 255

Asn Ala Gly Val Ile Asn Ala Thr Phe His Pro Gly Gly Pro Ile Tyr
260 265 270

Asp Leu Ala Leu Gly Val Gly Glu Ser Asn Glu Asp Cys Glu Lys Thr
275 280 285

Val Pro His Leu Lys Val Thr Gln Leu Cys Arg Asn Asp Ser Asp Met
290 295 300

Ala Ser Val Ala Gly Asn Ala Ser Asn Ile Ser Pro Gln Pro Pro Ser
305 310 315 320

Gly Val Pro Thr Gly Gly Glu Phe Val Leu Ile Pro Thr Ala Tyr Tyr
325 330 335

Ser Gln Leu Leu Thr Gly Gln Thr Lys Asn Pro Gln Val Ser Ile Gly
340 345 350

Ala Pro Asn Asn Gly Gln Tyr Ile Val Gly Pro Tyr Gly Ser Pro His
355 360 365

Pro Pro Ala Phe Pro Pro Asn Thr Gly Gly Tyr Gly Cys Pro Pro Gly
370 375 380

His Phe Gly Gly Pro Tyr Gly Phe Pro Gly Tyr Pro Pro Pro Asn Arg
385 390 395 400

Leu Glu Met Gln Met Ser Ala Phe Met Asn Ala Leu Ala Ala Glu Arg
405 410 415

Gly Ile Asp Leu Gln Thr Pro Cys Val Asn Phe Pro Asp Lys Thr Asp
420 425 430

Val Arg Arg Pro Gly Lys Arg Asp Phe Lys Ser Met Asp Gln Arg Glu
435 440 445

Leu Asp Ser Phe Tyr Ser Gly Glu Ser Gln Met Asp Gly Glu Phe Pro
450 455 460

Ser Asn Ile Tyr Phe Pro Gly Glu Pro Thr Tyr Ile Thr His Arg Arg
465 470 475 480

Arg Arg Val Ser Pro Ser Tyr Trp Gln Arg Arg His Arg Val Ser Asn
485 490 495

Gly Gln His Glu Glu Leu Ala Gly Val Val Ala Lys Leu Gln Gln Glu
500 505 510

Val Thr Glu Leu Lys Ser Gln Asn Gly Thr Gln Met Pro Leu Ser His
515 520 525

His Thr Asn Ile Pro Glu Gly Thr Arg Asp Pro Arg Ile Ser Ile Leu
530 535 540

Leu Lys Gln Leu Gln Ser Val Ser Gly Leu Cys Ser Ser Gln Asn Thr
545 550 555 560

Thr Ser Thr Pro His Thr Asp Thr Val Gly Gln Asp Val Asn Ala Val
565 570 575

Glu Ala Ser Ser Lys Ala Pro Leu Ile Gln Gly Ser Thr Ala Asp Asp
580 585 590

Ala Asp Met Phe Ala Asn Gln Met Met Val Gly Arg Cys
595 600 605

<210> 64
<211> 1194
<212> PRT
<213> Varicella zoster

<400> 64

Met Ala Ile Arg Thr Gly Phe Cys Asn Pro Phe Leu Thr Gln Ala Ser
1 5 10 15

Gly Ile Lys Tyr Asn Pro Arg Thr Gly Arg Gly Ser Asn Arg Glu Phe
20 25 30

Leu His Ser Tyr Lys Thr Thr Met Ser Ser Phe Gln Phe Leu Ala Pro
35 40 45

Lys Cys Leu Asp Glu Asp Val Pro Met Glu Glu Arg Lys Gly Val His
50 55 60

Val Gly Thr Leu Ser Arg Pro Pro Lys Val Tyr Cys Asn Gly Lys Glu
65 70 75 80

Val Pro Ile Leu Asp Phe Arg Cys Ser Ser Pro Trp Pro Arg Arg Val
85 90 95

Asn Ile Trp Gly Glu Ile Asp Phe Arg Gly Asp Lys Phe Asp Pro Arg
100 105 110

Phe Asn Thr Phe His Val Tyr Asp Ile Val Glu Thr Thr Glu Ala Ala
115 120 125

Ser Asn Gly Asp Val Ser Arg Phe Ala Thr Ala Thr Arg Pro Leu Gly
130 135 140

Thr Val Ile Thr Leu Leu Gly Met Ser Arg Cys Gly Lys Arg Val Ala
145 150 155 160

Val His Val Tyr Gly Ile Cys Gln Tyr Phe Tyr Ile Asn Lys Ala Glu
165 170 175

Val Asp Thr Ala Cys Gly Ile Arg Ser Gly Ser Glu Leu Ser Val Leu
180 185 190

Leu Ala Glu Cys Leu Arg Ser Ser Met Ile Thr Gln Asn Asp Ala Thr
195 200 205

Leu Asn Gly Asp Lys Asn Ala Phe His Gly Thr Ser Phe Lys Ser Ala
210 215 220

Ser Pro Glu Ser Phe Arg Val Glu Val Ile Glu Arg Thr Asp Val Tyr
225 230 235 240

Tyr Tyr Asp Thr Gln Pro Cys Ala Phe Tyr Arg Val Tyr Ser Pro Ser
245 250 255

Ser Lys Phe Thr Asn Tyr Leu Cys Asp Asn Phe His Pro Glu Leu Lys
260 265 270

Lys Tyr Glu Gly Arg Val Asp Ala Thr Thr Arg Phe Leu Met Asp Asn
275 280 285

Pro Gly Phe Val Ser Phe Gly Trp Tyr Gln Leu Lys Pro Gly Val Asp
290 295 300

Gly Glu Arg Val Arg Val Arg Pro Ala Ser Arg Gln Leu Thr Leu Ser
305 310 315 320

Asp Val Glu Ile Asp Cys Met Ser Asp Asn Leu Gln Ala Ile Pro Asn
325 330 335

Asp Asp Ser Trp Pro Asp Tyr Lys Leu Leu Cys Phe Asp Ile Glu Cys
340 345 350

Lys Ser Gly Gly Ser Asn Glu Leu Ala Phe Pro Asp Ala Thr His Leu
355 360 365

Glu Asp Leu Val Ile Gln Ile Ser Cys Leu Leu Tyr Ser Ile Pro Arg
370 375 380

Gln Ser Leu Glu His Ile Leu Leu Phe Ser Leu Gly Ser Cys Asp Leu
385 390 395 400

Pro Gln Arg Tyr Val Gln Glu Met Lys Asp Ala Gly Leu Pro Glu Pro
405 410 415

Thr Val Leu Glu Phe Asp Ser Glu Phe Glu Leu Leu Ile Ala Phe Met
420 425 430

Thr Leu Val Lys Gln Tyr Ala Pro Glu Phe Ala Thr Gly Tyr Asn Ile
435 440 445

Val Asn Phe Asp Trp Ala Phe Ile Met Glu Lys Leu Asn Ser Ile Tyr
450 455 460

Ser Leu Lys Leu Asp Gly Tyr Gly Ser Ile Asn Arg Gly Gly Leu Phe
465 470 475 480

Lys Ile Trp Asp Val Gly Lys Ser Gly Phe Gln Arg Arg Ser Lys Val
485 490 495

Lys Ile Asn Gly Leu Ile Ser Leu Asp Met Tyr Ala Ile Ala Thr Glu
500 505 510

Lys Leu Lys Leu Ser Ser Tyr Lys Leu Asp Ser Val Ala Arg Glu Ala
515 520 525

Leu Asn Glu Ser Lys Arg Asp Leu Pro Tyr Lys Asp Ile Pro Gly Tyr
530 535 540

Tyr Ala Ser Gly Pro Asn Thr Arg Gly Ile Ile Gly Glu Tyr Cys Ile
545 550 555 560

Gln Asp Ser Ala Leu Val Gly Lys Leu Phe Phe Lys Tyr Leu Pro His
565 570 575

Leu Glu Leu Ser Ala Val Ala Arg Leu Ala Arg Ile Thr Leu Thr Lys
580 585 590

Ala Ile Tyr Asp Gly Gln Gln Val Arg Ile Tyr Thr Cys Leu Leu Gly
595 600 605

Leu Ala Ser Ser Arg Gly Phe Ile Leu Pro Asp Gly Gly Tyr Pro Ala
610 615 620

Thr Phe Glu Tyr Lys Asp Val Ile Pro Asp Val Gly Asp Val Glu Glu
625 630 635 640

Glu Met Asp Glu Asp Glu Ser Val Ser Pro Thr Gly Thr Ser Ser Gly
645 650 655

Arg Asn Val Gly Tyr Lys Gly Ala Arg Val Phe Asp Pro Asp Thr Gly
660 665 670

Phe Tyr Ile Asp Pro Val Val Val Leu Asp Phe Ala Ser Leu Tyr Pro
675 680 685

Ser Ile Ile Gln Ala His Asn Leu Cys Phe Thr Thr Leu Thr Leu Asn
690 695 700

Phe Glu Thr Val Lys Arg Leu Asn Pro Ser Asp Tyr Ala Thr Phe Thr
705 710 715 720

Val Gly Gly Lys Arg Leu Phe Phe Val Arg Ser Asn Val Arg Glu Ser
725 730 735

Leu Leu Gly Val Leu Leu Lys Asp Trp Leu Ala Met Arg Lys Ala Ile
740 745 750

Arg Ala Arg Ile Pro Gly Ser Ser Ser Asp Glu Ala Val Leu Leu Asp
755 760 765

Lys	Gln	Gln	Ala	Ala	Ile	Lys	Val	Val	Cys	Asn	Ser	Val	Tyr	Gly	Phe	770	775	780
Thr	Gly	Val	Ala	Gln	Gly	Phe	Leu	Pro	Cys	Leu	Tyr	Val	Ala	Ala	Thr	785	790	795
Val	Thr	Thr	Ile	Gly	Arg	Gln	Met	Leu	Leu	Ser	Thr	Arg	Asp	Tyr	Ile	805	810	815
His	Asn	Asn	Trp	Ala	Ala	Phe	Glu	Arg	Phe	Ile	Thr	Ala	Phe	Pro	Asp	820	825	830
Ile	Glu	Ser	Ser	Val	Leu	Ser	Gln	Lys	Ala	Tyr	Glu	Val	Lys	Val	Ile	835	840	845
Tyr	Gly	Asp	Thr	Asp	Ser	Val	Phe	Ile	Arg	Phe	Lys	Gly	Val	Ser	Val	850	855	860
Glu	Gly	Ile	Ala	Lys	Ile	Gly	Glu	Lys	Met	Ala	His	Ile	Ile	Ser	Thr	865	870	875
Ala	Leu	Phe	Cys	Pro	Pro	Ile	Lys	Leu	Glu	Cys	Glu	Lys	Thr	Phe	Ile	885	890	895
Lys	Leu	Leu	Leu	Ile	Thr	Lys	Lys	Lys	Tyr	Ile	Gly	Val	Ile	Tyr	Gly	900	905	910
Gly	Lys	Val	Leu	Met	Lys	Gly	Val	Asp	Leu	Val	Arg	Lys	Asn	Asn	Cys	915	920	925
Gln	Phe	Ile	Asn	Asp	Tyr	Ala	Arg	Lys	Leu	Val	Glu	Leu	Leu	Leu	Tyr	930	935	940
Asp	Asp	Thr	Val	Ser	Arg	Ala	Ala	Ala	Glu	Ala	Ser	Cys	Val	Ser	Ile	945	950	955
Ala	Glu	Trp	Asn	Arg	Arg	Ala	Met	Pro	Ser	Gly	Met	Ala	Gly	Phe	Gly	965	970	975
Arg	Ile	Ile	Ala	Asp	Ala	His	Arg	Gln	Ile	Thr	Ser	Pro	Lys	Leu	Asp	980	985	990
Ile	Asn	Lys	Phe	Val	Met	Thr	Ala	Glu	Leu	Ser	Arg	Pro	Pro	Ser	Ala	995	1000	1005

Tyr Ile Asn Arg Arg Leu Ala His Leu Thr Val Tyr Tyr Lys Leu
1010 1015 1020

Val Met Arg Gln Gly Gln Ile Pro Asn Val Arg Glu Arg Ile Pro
1025 1030 1035

Tyr Val Ile Val Ala Pro Thr Asp Glu Val Glu Ala Asp Ala Lys
1040 1045 1050

Ser Val Ala Leu Leu Arg Gly Asp Pro Leu Gln Asn Thr Ala Gly
1055 1060 1065

Lys Arg Cys Gly Glu Ala Lys Arg Lys Leu Ile Ile Ser Asp Leu
1070 1075 1080

Ala Glu Asp Pro Ile His Val Thr Ser His Gly Leu Ser Leu Asn
1085 1090 1095

Ile Asp Tyr Tyr Phe Ser His Leu Ile Gly Thr Ala Ser Val Thr
1100 1105 1110

Phe Lys Ala Leu Phe Gly Asn Asp Thr Lys Leu Thr Glu Arg Leu
1115 1120 1125

Leu Lys Arg Phe Ile Pro Glu Thr Arg Val Val Asn Val Lys Met
1130 1135 1140

Leu Asn Arg Leu Gln Ala Ala Gly Phe Val Cys Ile His Ala Pro
1145 1150 1155

Cys Trp Asp Asn Lys Met Asn Thr Glu Ala Glu Ile Thr Glu Glu
1160 1165 1170

Glu Gln Ser His Gln Ile Met Arg Arg Val Phe Cys Ile Pro Lys
1175 1180 1185

Ala Ile Leu His Gln Ser
1190

<210> 65
<211> 156
<212> PRT
<213> Varicella zoster

<400> 65

Met Tyr Glu Ser Glu Asn Ala Ser Glu His His Pro Glu Leu Glu Asp
1 5 10 15

Val Phe Ser Glu Asn Thr Gly Asp Ser Asn Pro Ser Met Gly Ser Ser
20 25 30

Asp Ser Thr Arg Ser Ile Ser Gly Met Arg Ala Arg Asp Leu Ile Thr
35 40 45

Asp Thr Asp Val Asn Leu Leu Asn Ile Asp Ala Leu Glu Ser Lys Tyr
50 55 60

Phe Pro Ala Asp Ser Thr Phe Thr Leu Ser Val Trp Phe Glu Asn Leu
65 70 75 80

Ile Pro Pro Glu Ile Glu Ala Ile Leu Pro Thr Thr Asp Ala Gln Leu
85 90 95

Asn Tyr Ile Ser Phe Thr Ser Arg Leu Ala Ser Val Leu Lys His Lys
100 105 110

Glu Ser Asn Asp Ser Glu Lys Ser Ala Tyr Val Val Pro Cys Glu His
115 120 125

Ser Ala Ser Val Thr Arg Arg Arg Glu Arg Phe Ala Gly Val Met Ala
130 135 140

Lys Phe Leu Asp Leu His Glu Ile Leu Lys Asp Ala
145 150 155

<210> 66
<211> 269
<212> PRT
<213> Varicella zoster

<400> 66

Met Ser Arg Arg Thr Tyr Val Arg Ser Glu Arg Arg Arg Gly Cys Gly
1 5 10 15

Asp Asn Leu Leu Gln Arg Ile Arg Leu Val Val Pro Ser Ala Leu Gln
20 25 30

Cys Cys Asp Gly Asp Leu Pro Ile Phe Asp Pro Gln Arg Pro Pro Ala
35 40 45

Arg Cys Val Phe Gln Phe Asn Gly Glu Asp Asn Val Ser Glu Ala Phe

50		55		60
Pro Val Glu Tyr Ile Met Arg Leu Met Ala Asn Trp Ala Gln Val Asp				
65		70		75
				80
Cys Asp Pro Tyr Ile Lys Ile Gln Asn Thr Gly Val Ser Val Leu Phe				
	85		90	
				95
Gln Gly Phe Phe Phe Arg Pro Thr Asn Ala Pro Val Ala Glu Val Ser				
	100		105	
				110
Ile Asp Ser Asn Asn Val Ile Leu Ser Ser Thr Leu Ser Thr Gly Ile				
	115		120	
				125
Asn Leu Ser Ala Leu Glu Ser Ile Lys Arg Gly Gly Gly Ile Asp Arg				
	130		135	
				140
Arg Pro Leu Gln Ala Leu Met Trp Val Asn Cys Phe Val Arg Met Pro				
	145		150	
				155
				160
Tyr Val Gln Leu Ser Phe Arg Phe Met Gly Pro Glu Asp Pro Ser Arg				
	165		170	
				175
Thr Ile Lys Leu Met Ala Arg Ala Thr Asp Ala Tyr Met Tyr Lys Glu				
	180		185	
				190
Thr Gly Asn Asn Leu Asp Glu Tyr Ile Arg Trp Arg Pro Ser Phe Arg				
	195		200	
				205
Ser Pro Pro Glu Asn Gly Ser Pro Asn Thr Ser Val Gln Met Gln Ser				
	210		215	
				220
Asp Ile Lys Pro Ala Leu Pro Asp Thr Gln Thr Thr Arg Val Trp Lys				
	225		230	
				235
				240
Leu Ala Leu Pro Val Ala Asn Val Thr Tyr Ala Leu Phe Ile Val Ile				
	245		250	
				255
Val Leu Val Val Val Leu Gly Ala Val Leu Phe Trp Lys				
	260		265	

<210> 67
 <211> 235
 <212> PRT
 <213> Varicella zoster

<400> 67

Met Thr Gln Pro Ala Ser Ser Arg Val Val Phe Asp Pro Ser Asn Pro
1 5 10 15

Thr Thr Phe Ser Val Glu Ala Ile Ala Ala Tyr Thr Pro Val Ala Leu
20 25 30

Ile Arg Leu Leu Asn Ala Ser Gly Pro Leu Gln Pro Gly His Arg Val
35 40 45

Asp Ile Ala Asp Ala Arg Ser Ile Tyr Thr Val Gly Ala Ala Ala Ser
50 55 60

Ala Ala Arg Ala Arg Ala Asn His Asn Ala Asn Thr Ile Arg Arg Thr
65 70 75 80

Ala Met Phe Ala Glu Thr Asp Pro Met Thr Trp Leu Arg Pro Thr Val
85 90 95

Gly Leu Lys Arg Thr Phe Asn Pro Arg Ile Ile Arg Pro Gln Pro Pro
100 105 110

Asn Pro Ser Met Ser Leu Gly Ile Ser Gly Pro Thr Ile Leu Pro Gln
115 120 125

Lys Thr Gln Ser Ala Asp Gln Ser Ala Leu Gln Gln Pro Ala Ala Leu
130 135 140

Ala Phe Ser Gly Ser Ser Pro Gln His Pro Pro Pro Gln Thr Thr Ser
145 150 155 160

Ala Ser Val Gly Gln Gln Gln His Val Val Ser Gly Ser Ser Gly Gln
165 170 175

Gln Pro Gln Gln Gly Ala Gln Ser Ser Thr Val Gln Pro Thr Thr Gly
180 185 190

Ser Pro Pro Ala Ala Gln Gly Val Pro Gln Ser Thr Pro Pro Pro Thr
195 200 205

Gln Asn Thr Pro Gln Gly Gly Lys Gly Gln Thr Leu Ser His Thr Gly
210 215 220

Gln Ser Gly Asn Ala Ser Arg Ser Arg Arg Val
225 230 235

<210> 68
<211> 483
<212> PRT
<213> Varicella zoster

<400> 68

Met Gly Ser Gln Pro Thr Asn Ser His Phe Thr Leu Asn Glu Gln Thr
1 5 10 15

Leu Cys Gly Thr Asn Ile Ser Leu Leu Gly Asn Asn Arg Phe Ile Gln
20 25 30

Ile Gly Asn Gly Leu His Met Thr Tyr Ala Pro Gly Phe Phe Gly Asn
35 40 45

Trp Ser Arg Asp Leu Thr Ile Gly Pro Arg Phe Gly Gly Leu Asn Lys
50 55 60

Gln Pro Ile His Val Pro Pro Lys Arg Thr Glu Thr Ala Ser Ile Gln
65 70 75 80

Val Thr Pro Arg Ser Ile Val Ile Asn Arg Met Asn Asn Ile Gln Ile
85 90 95

Asn Pro Thr Ser Ile Gly Asn Pro Gln Val Thr Ile Arg Leu Pro Leu
100 105 110

Asn Asn Phe Lys Ser Thr Thr Gln Leu Ile Gln Gln Val Ser Leu Thr
115 120 125

Asp Phe Phe Arg Pro Asp Ile Glu His Ala Gly Ser Ile Val Leu Ile
130 135 140

Leu Arg His Pro Ser Asp Met Ile Gly Glu Ala Asn Thr Leu Thr Gln
145 150 155 160

Ala Gly Arg Asp Pro Asp Val Leu Leu Glu Gly Leu Arg Asn Leu Phe
165 170 175

Asn Ala Cys Thr Ala Pro Trp Thr Val Gly Glu Gly Gly Gly Leu Arg
180 185 190

Ala Tyr Val Thr Ser Leu Ser Phe Ile Ala Ala Cys Arg Ala Glu Glu
195 200 205

Tyr Thr Asp Lys Gln Ala Ala Asp Ala Asn Arg Thr Ala Ile Val Ser
210 215 220

Ala Tyr Gly Cys Ser Arg Met Glu Thr Arg Leu Ile Arg Phe Ser Glu
225 230 235 240

Cys Leu Arg Ala Met Val Gln Cys His Val Phe Pro His Arg Phe Ile
245 250 255

Ser Phe Phe Gly Ser Leu Leu Glu Tyr Thr Ile Gln Asp Asn Leu Cys
260 265 270

Asn Ile Thr Ala Val Ala Lys Gly Pro Gln Glu Ala Ala Arg Thr Asp
275 280 285

Lys Thr Ser Thr Arg Arg Val Thr Ala Asn Ile Pro Ala Cys Val Phe
290 295 300

Trp Asp Val Asp Lys Asp Leu His Leu Ser Ala Asp Gly Leu Lys His
305 310 315 320

Val Phe Leu Val Phe Val Tyr Thr Gln Arg Arg Gln Arg Glu Gly Val
325 330 335

Arg Leu His Leu Ala Leu Ser Gln Leu Asn Glu Gln Cys Phe Gly Arg
340 345 350

Gly Ile Gly Phe Leu Leu Gly Arg Ile Arg Ala Glu Asn Ala Ala Trp
355 360 365

Gly Thr Glu Gly Val Ala Asn Thr His Gln Pro Tyr Asn Thr Arg Ala
370 375 380

Leu Pro Leu Val Gln Leu Ser Asn Asp Pro Thr Ser Pro Arg Cys Ser
385 390 395 400

Ile Gly Glu Ile Thr Gly Val Asn Trp Asn Leu Ala Arg Gln Arg Leu
405 410 415

Tyr Gln Trp Thr Gly Asp Phe Arg Gly Leu Pro Thr Gln Leu Ser Cys
420 425 430

Met Tyr Ala Ala Tyr Thr Leu Ile Gly Thr Ile Pro Ser Glu Ser Val
435 440 445

Arg Tyr Thr Arg Arg Met Glu Arg Phe Gly Gly Tyr Asn Val Pro Thr
450 455 460

Ile Trp Leu Glu Gly Val Val Trp Gly Gly Thr Asn Thr Trp Asn Glu
465 470 475 480

Cys Tyr Tyr

<210> 69
<211> 775
<212> PRT
<213> Varicella zoster

<400> 69

Met Glu Phe Lys Arg Ile Phe Asn Thr Val His Asp Ile Ile Asn Arg
1 5 10 15

Leu Cys Gln His Gly Tyr Lys Glu Tyr Ile Ile Pro Pro Glu Ser Thr
20 25 30

Thr Pro Val Glu Leu Met Glu Tyr Ile Ser Thr Ile Val Ser Lys Leu
35 40 45

Lys Ala Val Thr Arg Gln Asp Glu Arg Val Tyr Arg Cys Cys Gly Glu
50 55 60

Leu Ile His Cys Arg Ile Asn Leu Arg Ser Val Ser Met Glu Thr Trp
65 70 75 80

Leu Thr Ser Pro Ile Leu Cys Leu Thr Pro Arg Val Arg Gln Ala Ile
85 90 95

Glu Gly Arg Arg Asp Glu Ile Arg Arg Ala Ile Leu Glu Pro Phe Leu
100 105 110

Lys Asp Gln Tyr Pro Ala Leu Ala Thr Leu Gly Leu Gln Ser Ala Leu
115 120 125

Lys Tyr Glu Asp Phe Tyr Leu Thr Lys Leu Glu Glu Gly Lys Leu Glu
130 135 140

Ser Leu Cys Gln Phe Phe Leu Arg Leu Ala Ala Thr Val Thr Thr Glu
145 150 155 160

Ile	Val	Asn	Leu	Pro	Lys	Ile	Ala	Thr	Leu	Ile	Pro	Gly	Ile	Asn	Asp		
				165					170					175			
Gly	Tyr	Thr	Trp	Thr	Asp	Val	Cys	Arg	Val	Phe	Phe	Thr	Ala	Leu	Ala		
			180					185					190				
Cys	Gln	Lys	Ile	Val	Pro	Ala	Thr	Pro	Val	Met	Met	Phe	Leu	Gly	Arg		
		195					200					205					
Glu	Thr	Gly	Ala	Thr	Ala	Ser	Cys	Tyr	Leu	Met	Asp	Pro	Glu	Ser	Ile		
	210					215					220						
Thr	Val	Gly	Arg	Ala	Val	Arg	Ala	Ile	Thr	Gly	Asp	Val	Gly	Thr	Val		
225					230					235					240		
Leu	Gln	Ser	Arg	Gly	Gly	Val	Gly	Ile	Ser	Leu	Gln	Ser	Leu	Asn	Leu		
				245					250					255			
Ile	Pro	Thr	Glu	Asn	Gln	Thr	Lys	Gly	Leu	Leu	Ala	Val	Leu	Lys	Leu		
			260					265					270				
Leu	Asp	Cys	Met	Val	Met	Ala	Ile	Asn	Ser	Asp	Cys	Glu	Arg	Pro	Thr		
	275						280					285					
Gly	Val	Cys	Val	Tyr	Ile	Glu	Pro	Trp	His	Val	Asp	Leu	Gln	Thr	Val		
	290					295					300						
Leu	Ala	Thr	Arg	Gly	Met	Leu	Val	Arg	Asp	Glu	Ile	Phe	Arg	Cys	Asp		
305				310						315					320		
Asn	Ile	Phe	Cys	Cys	Leu	Trp	Thr	Pro	Asp	Leu	Phe	Phe	Glu	Arg	Tyr		
			325						330					335			
Leu	Ser	Tyr	Leu	Lys	Gly	Ala	Ser	Asn	Val	Gln	Trp	Thr	Leu	Phe	Asp		
			340					345					350				
Asn	Arg	Ala	Asp	Ile	Leu	Arg	Thr	Leu	His	Gly	Glu	Ala	Phe	Thr	Ser		
	355						360					365					
Thr	Tyr	Leu	Arg	Leu	Glu	Arg	Glu	Gly	Leu	Gly	Val	Ser	Ser	Val	Pro		
	370					375					380						
Ile	Gln	Asp	Ile	Ala	Phe	Thr	Ile	Ile	Arg	Ser	Ala	Ala	Val	Thr	Gly		
385				390						395					400		

Ser Pro Phe Leu Met Phe Lys Asp Ala Cys Asn Arg Asn Tyr His Met
 405 410 415

Asn Thr Gln Gly Asn Ala Ile Thr Gly Ser Asn Leu Cys Thr Glu Ile
 420 425 430

Val Gln Lys Ala Asp Ala His Gln His Gly Val Cys Asn Leu Ala Ser
 435 440 445

Ile Asn Leu Thr Thr Cys Leu Ser Lys Gly Pro Val Ser Phe Asn Leu
 450 455 460

Asn Asp Leu Gln Leu Thr Ala Arg Thr Thr Val Ile Phe Leu Asn Gly
 465 470 475 480

Val Leu Ala Ala Gly Asn Phe Pro Cys Lys Lys Ser Cys Lys Gly Val
 485 490 495

Lys Asn Asn Arg Ser Leu Gly Ile Gly Ile Gln Gly Leu His Thr Thr
 500 505 510

Cys Leu Arg Leu Gly Phe Asp Leu Thr Ser Gln Pro Ala Arg Arg Leu
 515 520 525

Asn Val Gln Ile Ala Glu Leu Met Leu Tyr Glu Thr Met Lys Thr Ser
 530 535 540

Met Glu Met Cys Lys Ile Gly Gly Leu Ala Pro Phe Lys Gly Phe Thr
 545 550 555 560

Glu Ser Lys Tyr Ala Lys Gly Trp Leu His Gln Asp Gly Phe Ser Thr
 565 570 575

Ile Ser Tyr Leu Asp Leu Pro Trp Cys Thr Leu Arg Asp Asp Ile Cys
 580 585 590

Ala Tyr Gly Leu Tyr Asn Ser Gln Phe Leu Ala Leu Met Pro Thr Val
 595 600 605

Ser Ser Ala Gln Val Thr Glu Cys Ser Glu Gly Phe Ser Pro Ile Tyr
 610 615 620

Asn Asn Met Phe Ser Lys Val Thr Thr Ser Gly Glu Leu Leu Arg Pro
 625 630 635 640

Asn Leu Asp Leu Met Asp Glu Leu Arg Asp Met Tyr Ser Cys Glu Glu
645 650 655

Lys Arg Leu Glu Val Ile Asn Ile Leu Glu Lys Asn Gln Trp Ser Val
660 665 670

Ile Arg Ser Phe Gly Cys Leu Ser Asn Ser His Pro Leu Leu Lys Tyr
675 680 685

Lys Thr Ala Phe Glu Tyr Glu Gln Glu Asp Leu Val Asp Met Cys Ala
690 695 700

Glu Arg Ala Pro Phe Ile Asp Gln Ser Gln Ser Met Thr Leu Phe Ile
705 710 715 720

Glu Glu Arg Pro Asp Gly Thr Ile Pro Ala Ser Lys Ile Met Asn Leu
725 730 735

Leu Ile Arg Ala Tyr Lys Ala Gly Leu Lys Thr Gly Met Tyr Tyr Cys
740 745 750

Lys Ile Arg Lys Ala Thr Asn Ser Gly Leu Phe Ala Gly Gly Glu Leu
755 760 765

Thr Cys Thr Ser Cys Ala Leu
770 775

<210> 70
<211> 306
<212> PRT
<213> Varicella zoster

<400> 70

Met Asp Gln Lys Asp Cys Ser His Phe Phe Tyr Arg Pro Glu Cys Pro
1 5 10 15

Asp Ile Asn Asn Leu Arg Ala Leu Ser Ile Ser Asn Arg Trp Leu Glu
20 25 30

Ser Asp Phe Ile Ile Glu Asp Asp Tyr Gln Tyr Leu Asp Cys Leu Thr
35 40 45

Glu Asp Glu Leu Ile Phe Tyr Arg Phe Ile Phe Thr Phe Leu Ser Ala
50 55 60

Ala Asp Asp Leu Val Asn Val Asn Leu Gly Ser Leu Thr Gln Leu Phe

[illegible]

305

<210> 71
<211> 408
<212> PRT
<213> Varicella zoster

<400> 71

Met Asp Leu Arg Ser Arg Thr Asp Asp Ala Leu Asp Met Glu Leu His
1 5 10 15

Ala Gly Phe Asp Ala Pro Glu Ile Ala Arg Ala Val Leu Thr Glu Lys
20 25 30

Thr Leu Thr Gly Leu Ile Ser Ser Ile Ser Pro Leu Val Asn Arg Leu
35 40 45

Arg Asp Ser Ile Leu Ile Phe Ser Asp Glu Gly Leu Ile Ile His Cys
50 55 60

Ser Leu Glu Thr Glu Gln Leu Tyr Ile Pro Ile Pro Ala Asn Met Phe
65 70 75 80

Asp Gln Tyr Asn Trp Thr Gly Pro Arg Met Val Val Leu Ala Ala Thr
85 90 95

Glu Gly Arg Ser Ser Leu Ile Asp Ala Phe Arg His Thr Lys Asp Pro
100 105 110

Ser Thr Pro Thr Arg Leu Tyr Phe Lys Phe Thr Gly Gln Pro Pro Glu
115 120 125

Arg Ser Ile Ile Gln Thr Met Val Trp Gln Arg Pro Gly Asp Cys Gly
130 135 140

Pro Asp Asp Gln Val Gln Cys Tyr Lys Gln Val Val Lys Arg Glu Leu
145 150 155 160

Ala Cys Tyr Thr Met Met Phe Pro Asn Leu Thr Pro Asp Ile Ser Ile
165 170 175

Cys Leu Lys Arg Asp Gln Phe Thr Arg Leu Gln Arg Leu Leu Lys Thr
180 185 190

Phe Gly Phe Thr Thr Cys Phe Ile Leu Thr Ala Thr Asp Met Tyr Ile
195 200 205

Gln Thr Ala Gly Gly Gly Phe Ile Ser Phe Asn Val Ser Leu Asp Ile
210 215 220

Asn Gly Ser Lys Pro Thr Pro Tyr Asn Leu Ile Arg Ser Ile Thr Asn
225 230 235 240

Ser Lys Arg Ile Leu Asn Asn Val Val Tyr Gly Ser Gly Ser Met Arg
245 250 255

Glu Phe Gly Val Leu Leu Glu Thr His Ser Gly Phe Arg Ser Ala Val
260 265 270

Gln Asn Leu Lys Leu Thr Arg Asp Glu Thr Cys Tyr Ile Asn Phe Tyr
275 280 285

Leu Ala Leu Thr Asn Ser Pro Met Val Gly Leu Tyr Ile Gln Arg Ser
290 295 300

Ala Pro Val His Ser Phe Phe Tyr Ala Thr Phe Leu Ser Pro Lys Asp
305 310 315 320

Leu Lys Glu Lys Leu Thr Ser Met Gln Leu Phe Ala Asn Met Glu Ser
325 330 335

Val Lys Asp Glu Pro Pro Leu Lys Lys Arg Arg Asn Leu Leu Thr Lys
340 345 350

Arg Asn Glu Lys Asn Thr Gly Asn Lys Met Gly Gly Lys Leu Pro Glu
355 360 365

Thr Thr Trp Gln Glu Gly Ile Gly Ile Arg Glu Tyr Cys Val Ala Pro
370 375 380

Pro Val Asp Pro Ala Gly Thr Leu Asp Tyr Ser Glu Leu Ser Arg Glu
385 390 395 400

Ser Asp Val Ile Cys Thr Val Lys
405

<210> 72

<211> 406

<212> PRT

<213> Varicella zoster

<400> 72

Met	Ala	Val	Asn	Gly	Glu	Arg	Ala	Val	His	Asp	Glu	Asn	Leu	Gly	Val	1	5	10	15
Leu	Asp	Arg	Glu	Leu	Ile	Arg	Ala	Gln	Ser	Ile	Gln	Gly	Cys	Val	Gly	20	25	30	
Asn	Pro	Gln	Glu	Cys	Asn	Ser	Cys	Ala	Ile	Thr	Ser	Ala	Ser	Arg	Leu	35	40	45	
Phe	Leu	Val	Gly	Leu	Gln	Ala	Ser	Val	Ile	Thr	Ser	Gly	Leu	Ile	Leu	50	55	60	
Gln	Tyr	His	Val	Cys	Glu	Ala	Ala	Val	Asn	Ala	Thr	Ile	Met	Gly	Leu	65	70	75	80
Ile	Val	Val	Ser	Gly	Leu	Trp	Pro	Thr	Ser	Val	Lys	Phe	Leu	Arg	Thr	85	90	95	
Leu	Ala	Lys	Leu	Gly	Arg	Cys	Leu	Gln	Thr	Val	Val	Val	Leu	Gly	Phe	100	105	110	
Ala	Val	Leu	Trp	Ala	Val	Gly	Cys	Pro	Ile	Ser	Arg	Asp	Leu	Pro	Phe	115	120	125	
Val	Glu	Leu	Leu	Gly	Ile	Ser	Ile	Ser	Ala	Ile	Thr	Gly	Thr	Val	Ala	130	135	140	
Ala	Val	His	Ile	His	Tyr	Tyr	Asn	Phe	Val	Thr	Thr	Phe	Asn	Gly	Pro	145	150	155	160
His	Ile	Tyr	Phe	Tyr	Val	Met	Met	Leu	Gly	Thr	Gly	Leu	Gly	Gly	Leu	165	170	175	
Leu	Thr	Val	Ile	Leu	Tyr	Met	Tyr	Val	Ser	Lys	Tyr	Glu	Val	Leu	Ile	180	185	190	
Gly	Leu	Cys	Ile	Ser	Ile	Val	Thr	Leu	Val	Ser	Ile	Val	Asp	Ala	Ala	195	200	205	
Thr	Asp	Leu	Gln	Asp	Thr	Cys	Ile	Tyr	Arg	Lys	Asn	Arg	His	Lys	Gln	210	215	220	
Leu	Asn	Thr	Tyr	Thr	Asp	Leu	Gly	Phe	Ala	Val	Val	Tyr	Thr	Gln	Asn	225	230	235	240

Asp Arg Gly Arg Val Cys Asp His Arg Glu Ser Ser Arg Thr Leu Lys
245 250 255

Arg Val Phe Lys Gly Ile Arg Ile Met Ser Val Ile Pro Pro Val Leu
260 265 270

Tyr Ile Val Thr Pro Leu Met Trp Ala Ile Ser His Ile Ile Lys Leu
275 280 285

Asn His Phe Ile Lys Leu Thr Gln Val Thr Leu Ala Val Ser Ile Gly
290 295 300

Gly His Ile Ile Ala Phe Gly Leu Gln Gly Phe Ala Val Leu Tyr Gln
305 310 315 320

Glu Lys Lys Asn Leu Trp Val Ile Val Leu Tyr Thr Thr Thr Ser Val
325 330 335

Thr Gly Ile Ala Val Thr Phe Ala Gly Ile Ser Trp Gly Ala Ile Ile
340 345 350

Ile Leu Thr Ser Thr Val Ala Ala Gly Leu Thr Cys Ile Gln Met Met
355 360 365

Arg Leu Ser Val Lys Pro Ile Asp Cys Phe Met Ala Ser His Ile Thr
370 375 380

Lys Val Tyr His Val Cys Val Tyr Ile Ile Ile Asn Leu Cys Tyr Leu
385 390 395 400

Cys Gly Thr Tyr Val Ser
405

<210> 73
<211> 560
<212> PRT
<213> Varicella zoster

<400> 73

Met Lys Arg Ile Gln Ile Asn Leu Ile Leu Thr Ile Ala Cys Ile Gln
1 5 10 15

Leu Ser Thr Glu Ser Gln Pro Thr Pro Val Ser Ile Thr Glu Leu Tyr
20 25 30

Thr Ser Ala Ala Thr Arg Lys Pro Asp Pro Ala Val Ala Pro Thr Ser
 35 40 45

Ala Ala Ser Arg Lys Pro Asp Pro Ala Val Ala Pro Thr Ser Ala Ala
 50 55 60

Ser Arg Lys Pro Asp Pro Ala Val Ala Pro Thr Ser Ala Ala Ser Arg
 65 70 75 80

Lys Pro Asp Pro Ala Val Ala Pro Thr Ser Ala Ala Thr Arg Lys Pro
 85 90 95

Asp Pro Ala Val Ala Pro Thr Ser Ala Ala Ser Arg Lys Pro Asp Pro
 100 105 110

Ala Val Ala Pro Thr Ser Ala Ala Thr Arg Lys Pro Asp Pro Ala Val
 115 120 125

Ala Pro Thr Ser Ala Ala Ser Arg Lys Pro Asp Pro Ala Ala Asn Thr
 130 135 140

Gln His Ser Gln Pro Pro Phe Leu Tyr Glu Asn Ile Gln Cys Val His
 145 150 155 160

Gly Gly Ile Gln Ser Ile Pro Tyr Phe His Thr Phe Ile Met Pro Cys
 165 170 175

Tyr Met Arg Leu Thr Thr Gly Gln Gln Ala Ala Phe Lys Gln Gln Gln
 180 185 190

Lys Thr Tyr Glu Gln Tyr Ser Leu Asp Pro Glu Gly Ser Asn Ile Thr
 195 200 205

Arg Trp Lys Ser Leu Ile Arg Pro Asp Leu His Ile Glu Val Trp Phe
 210 215 220

Thr Arg His Leu Ile Asp Pro His Arg Gln Leu Gly Asn Ala Leu Ile
 225 230 235 240

Arg Met Pro Asp Leu Pro Val Met Leu Tyr Ser Asn Ser Ala Asp Leu
 245 250 255

Asn Leu Ile Asn Asn Pro Glu Ile Phe Thr His Ala Lys Glu Asn Tyr
 260 265 270

Val	Ile	Pro	Asp	Val	Lys	Thr	Thr	Ser	Asp	Phe	Ser	Val	Thr	Ile	Leu	275	280	285
Ser	Met	Asp	Ala	Thr	Thr	Glu	Gly	Thr	Tyr	Ile	Trp	Arg	Val	Val	Asn	290	295	300
Thr	Lys	Thr	Lys	Asn	Val	Ile	Ser	Glu	His	Ser	Ile	Thr	Val	Thr	Thr	305	310	315
Tyr	Tyr	Arg	Pro	Asn	Ile	Thr	Val	Val	Gly	Asp	Pro	Val	Leu	Thr	Gly	325	330	335
Gln	Thr	Tyr	Ala	Ala	Tyr	Cys	Asn	Val	Ser	Lys	Tyr	Tyr	Pro	Pro	His	340	345	350
Ser	Val	Arg	Val	Arg	Trp	Thr	Ser	Arg	Phe	Gly	Asn	Ile	Gly	Lys	Asn	355	360	365
Phe	Ile	Thr	Asp	Ala	Ile	Gln	Glu	Tyr	Ala	Asn	Gly	Leu	Phe	Ser	Tyr	370	375	380
Val	Ser	Ala	Val	Arg	Ile	Pro	Gln	Gln	Lys	Gln	Met	Asp	Tyr	Pro	Pro	385	390	395
Pro	Ala	Ile	Gln	Cys	Asn	Val	Leu	Trp	Ile	Arg	Asp	Gly	Val	Ser	Asn	405	410	415
Met	Lys	Tyr	Ser	Ala	Val	Val	Thr	Pro	Asp	Val	Tyr	Pro	Phe	Pro	Asn	420	425	430
Val	Ser	Ile	Gly	Ile	Ile	Asp	Gly	His	Ile	Val	Cys	Thr	Ala	Lys	Cys	435	440	445
Val	Pro	Arg	Gly	Val	Val	His	Phe	Val	Trp	Trp	Val	Asn	Asp	Ser	Pro	450	455	460
Ile	Asn	His	Glu	Asn	Ser	Glu	Ile	Thr	Gly	Val	Cys	Asp	Gln	Asn	Lys	465	470	475
Arg	Phe	Val	Asn	Met	Gln	Ser	Ser	Cys	Pro	Thr	Ser	Glu	Leu	Asp	Gly	485	490	495
Pro	Ile	Thr	Tyr	Ser	Cys	His	Leu	Asp	Gly	Tyr	Pro	Lys	Lys	Phe	Pro	500	505	510

Pro Phe Ser Ala Val Tyr Thr Tyr Asp Ala Ser Thr Tyr Ala Thr Thr
515 520 525

Phe Ser Val Val Ala Val Ile Ile Gly Val Ile Ser Ile Leu Gly Thr
530 535 540

Leu Gly Leu Ile Ala Val Ile Ala Thr Leu Cys Ile Arg Cys Cys Ser
545 550 555 560

<210> 74
<211> 396
<212> PRT
<213> Varicella zoster

<400> 74

Met Asn Glu Ala Val Ile Asp Pro Ile Leu Glu Thr Ala Val Asn Thr
1 5 10 15

Gly Asp Met Phe Cys Ser Gln Thr Ile Pro Asn Arg Cys Leu Lys Asp
20 25 30

Thr Ile Leu Ile Glu Val Gln Pro Glu Cys Ala Asp Thr Leu Gln Cys
35 40 45

Val Leu Asp Asp Lys Val Ser Arg His Gln Pro Leu Leu Arg Asn
50 55 60

His Lys Lys Leu Glu Leu Pro Ser Glu Lys Ser Val Thr Arg Gly Gly
65 70 75 80

Phe Tyr Met Gln Gln Leu Glu Leu Leu Val Lys Ser Ala Pro Pro Asn
85 90 95

Glu Tyr Ala Leu Leu Leu Ile Gln Cys Lys Asp Thr Ala Leu Ala Asp
100 105 110

Glu Asp Asn Phe Phe Val Ala Asn Gly Val Ile Asp Ala Gly Tyr Arg
115 120 125

Gly Val Ile Ser Ala Leu Leu Tyr Tyr Arg Pro Gly Val Thr Val Ile
130 135 140

Leu Pro Gly His Leu Thr Ile Tyr Leu Phe Pro Val Lys Leu Arg Gln
145 150 155 160

Ser Arg Leu Leu Pro Lys Asn Val Leu Lys His Leu Asp Pro Ile Phe

<211> 1083
<212> PRT
<213> Varicella zoster

<400> 75

Met Asp Lys Ser Ser Lys Pro Thr Ile Arg Leu Leu Phe Ala Thr Lys
1 5 10 15

Gly Cys Ala Ile Ser His Ser Leu Leu Leu Leu Thr Gly Gln Ile Ser
20 25 30

Thr Glu Pro Leu Tyr Val Val Ser Tyr Thr Trp Thr Pro Asp Leu Asp
35 40 45

Asp Val Phe Val Lys Asn Gly Arg Glu Glu Ile Thr Gln Val Ile Pro
50 55 60

Thr Lys Arg Pro Arg Glu Val Thr Glu Asn Asp Glu Glu Asn Gln Ile
65 70 75 80

Met His Leu Phe Cys Ser Arg Asp Val Asn Val Ile Phe Tyr Leu Ile
85 90 95

Gly Gly Phe Ser Thr Gly Asp Val Arg Ser Arg Val Trp Pro Ile Phe
100 105 110

Phe Cys Cys Phe Lys Thr Gln Thr Asp Phe Lys Ala Leu Tyr Lys Ala
115 120 125

Leu Trp Tyr Gly Ala Pro Leu Asn Pro His Ile Ile Ser Asp Thr Leu
130 135 140

Cys Ile Ser Glu Thr Phe Asp Ile His Ser Glu Val Ile Gln Thr Leu
145 150 155 160

Met Val Thr Thr His His Leu Asn Arg Lys Gly Leu Ser Asp Asn Gly
165 170 175

Leu Cys Ile Thr Glu Ala Thr Leu Cys Lys Leu Val Lys Lys Ser Val
180 185 190

Gly Arg Gln Glu Leu Thr Ser Leu Tyr Ala His Tyr Glu Arg Gln Val
195 200 205

Leu Ala Ala Tyr Arg Arg Leu Tyr Trp Gly Tyr Gly Cys Ser Pro Phe
210 215 220

Trp Tyr Ile Val Arg Phe Gly Pro Ser Glu Lys Thr Leu Val Leu Ala
 225 230 235 240

Thr Arg Tyr Tyr Leu Leu Gln Thr Asp Thr Ser Tyr Asn Thr Leu Glu
 245 250 255

Thr Pro Leu Tyr Asp Leu Gln Ala Ile Lys Asp Leu Phe Leu Thr Tyr
 260 265 270

Gln Val Pro Ala Leu Pro Asn Cys Ser Gly Tyr Asn Ile Ser Asp Leu
 275 280 285

Leu Ser Phe Asp Lys Leu Ser Met Phe Cys Cys Ser Ser Thr Tyr Thr
 290 295 300

Arg Gly Leu Thr Ala Lys Asn Ala Leu Ser Tyr Ile Leu Gln Arg Ile
 305 310 315 320

His Thr Asp Thr Thr Glu Ile His Ala Val Ser Glu Tyr Ile Thr Asn
 325 330 335

Asp Arg Lys Gly Leu Lys Val Pro Asp Arg Glu Phe Val Asp Tyr Ile
 340 345 350

Tyr Leu Ala His Phe Glu Cys Phe Asn Arg Lys Gln Ile Ala Asp His
 355 360 365

Leu Gln Ala Val Thr Tyr Ser Asp Phe Val Asn Lys Pro Val Leu Leu
 370 375 380

Lys Ser Ser Asn Leu Gly Lys Arg Ala Thr Ala Asn Phe Phe Asn His
 385 390 395 400

Val Arg Ser Arg Leu Asn Met Arg Asp Tyr Ile Lys Lys Asn Val Ile
 405 410 415

Cys Asp Val Thr Glu Leu Gly Pro Glu Ile Gly His Lys Tyr Thr Ile
 420 425 430

Thr Lys Thr Tyr Thr Leu Ser Leu Thr Tyr Ala Ala Lys Pro Ser Lys
 435 440 445

Phe Ile Gly Val Cys Asp Leu Ala Thr Thr Leu Thr Arg Arg Val Glu
 450 455 460

Asn Ile Glu Lys Gln Phe Ser Pro Tyr Gly Trp Ser Ser Thr Ile Pro
465 470 475 480

Ser Asn Pro Pro Gly Phe Asp Glu Leu Ser Asn Phe Glu Asp Ser Gly
485 490 495

Val Ser Ala Glu Ala Leu Arg Ala Ala Asn Phe Ala Asn Asp Thr Pro
500 505 510

Asn Gln Ser Gly Arg Thr Gly Phe Asp Thr Ser Pro Gly Ile Thr Lys
515 520 525

Leu Leu Leu Phe Phe Ser Ala Ala Thr Gly Ile Ala Thr His Asp Val
530 535 540

Ser Ile Leu Ser Tyr Lys Thr Pro Leu Glu Ala Leu Ile Gly His Ser
545 550 555 560

Glu Val Thr Gly Pro Met Pro Val Tyr Arg Val Ala Leu Pro His Gly
565 570 575

Ala Gln Ala Phe Ala Val Ile Ala Asn Asp Thr Trp Ser Ser Ile Thr
580 585 590

Asn Arg Tyr Thr Leu Pro His Glu Ala Arg Leu Ile Ala Glu Asp Leu
595 600 605

Lys Gln Ile Asn Pro Cys Asn Phe Val Ala Ala Ser Leu Arg Asp Met
610 615 620

Gln Leu Thr Leu Leu Leu Ser Thr Ser Val Lys Asn Val Ser Lys Ile
625 630 635 640

Ser Ser Asn Ile Pro Lys Asp Gln Leu Tyr Ile Asn Arg Asn Glu Leu
645 650 655

Phe Asn Thr Asn Leu Ile Ile Thr Asn Leu Ile Leu Asp Val Asp Phe
660 665 670

His Ile Arg Lys Pro Ile Pro Leu Gly Ile Leu His Ala Gly Met Arg
675 680 685

Ala Phe Arg His Gly Ile Leu Thr Ala Met Gln Leu Leu Phe Pro Lys
690 695 700

Ala Val Val Asn Pro Asn Lys Asp Pro Cys Tyr Phe Tyr Lys Thr Ala
705 710 715 720

Cys Pro Glu Pro Thr Val Glu Val Leu Asp Asp Asp Asn Leu Leu Asp
725 730 735

Ile Thr Ser His Ser Asp Ile Asp Phe Tyr Ile Glu Asn Gly Glu Leu
740 745 750

Tyr Thr Cys Val Glu Glu Asn Tyr Thr Glu Asp Val Trp Phe Phe Asp
755 760 765

Thr Gln Thr Thr Ser Glu Val His Thr His Ala Asp Val Ser Asn Asn
770 775 780

Glu Asn Leu His Glu Thr Leu Pro Cys Asn Cys Lys Glu Lys Ile Gly
785 790 795 800

Phe Arg Val Cys Val Pro Ile Pro Asn Pro Tyr Ala Leu Val Gly Ser
805 810 815

Ser Thr Leu Lys Gly Phe Ala Gln Ile Leu Gln Gln Ala Val Leu Leu
820 825 830

Glu Arg Glu Phe Val Glu Tyr Ile Gly Pro Tyr Leu Arg Asp Phe Ser
835 840 845

Phe Ile Asp Thr Gly Val Tyr Ser His Gly His Ser Leu Arg Leu Pro
850 855 860

Phe Phe Ser Lys Val Thr Thr Thr Gly Thr Ala Val Gly Gln Leu Leu
865 870 875 880

Pro Phe Tyr Val Val Pro Glu Gln Cys Ile Asp Ile Leu Ala Phe Val
885 890 895

Thr Ser His Arg Asn Pro Ala Asn Phe His Phe His Ser Arg Pro Gln
900 905 910

Ser Asn Val Pro Val Gln Phe Ile Leu His Asn Leu Gly Gly Glu Tyr
915 920 925

Ala Glu Phe Phe Glu Arg Lys Val Ala Arg Asn Lys Gln Ile Phe Ser
930 935 940

Ser Pro Gln Ile Ser Leu Thr Lys Ala Leu Lys Glu Arg Gly Val Thr
 945 950 955 960

Cys Leu Asp Ala Phe Thr Leu Glu Ala Phe Val Asp Ser Thr Ile Leu
 965 970 975

Glu Ser Ile Val Glu His Ile Ala Val His Phe Pro Gly Arg Asp Arg
 980 985 990

Glu Tyr Thr Leu Thr Ser Ser Lys Cys Ile Ala Ile Lys Arg Asp Trp
 995 1000 1005

Val Leu Phe Gln Leu Ile Cys Gly Thr Lys Gly Phe Thr Cys Leu
 1010 1015 1020

Arg Tyr Pro His Arg Gly Gly Arg Thr Ala Pro Arg Thr Phe Val
 1025 1030 1035

Ser Leu Arg Val Asp His His Asn Arg Leu Cys Ile Ser Leu Ala
 1040 1045 1050

Gln Gln Cys Phe Ala Thr Lys Cys Asp Ser Asn Arg Met His Thr
 1055 1060 1065

Ile Phe Thr Leu Glu Val Pro Asn Tyr Pro Asn Leu Thr Ser Ser
 1070 1075 1080

<210> 76
 <211> 340
 <212> PRT
 <213> Varicella zoster

<400> 76

Met Gln Ala Leu Gly Ile Lys Thr Glu His Phe Ile Ile Met Cys Leu
 1 5 10 15

Leu Ser Gly His Ala Val Phe Thr Leu Trp Tyr Thr Ala Arg Val Lys
 20 25 30

Phe Glu His Glu Cys Val Tyr Ala Thr Thr Val Ile Asn Gly Gly Pro
 35 40 45

Val Val Trp Gly Ser Tyr Asn Asn Ser Leu Ile Tyr Val Thr Phe Val
 50 55 60

Asn	His	Ser	Thr	Phe	Leu	Asp	Gly	Leu	Ser	Gly	Tyr	Asp	Tyr	Ser	Cys	
65					70					75					80	
Arg	Glu	Asn	Leu	Leu	Ser	Gly	Asp	Thr	Met	Val	Lys	Thr	Ala	Ile	Ser	
			85						90						95	
Thr	Pro	Leu	His	Asp	Lys	Ile	Arg	Ile	Val	Leu	Gly	Thr	Arg	Asn	Cys	
			100					105						110		
His	Ala	Tyr	Phe	Trp	Cys	Val	Gln	Leu	Lys	Met	Ile	Phe	Phe	Ala	Trp	
		115					120					125				
Phe	Val	Tyr	Gly	Met	Tyr	Leu	Gln	Phe	Arg	Arg	Ile	Arg	Arg	Met	Phe	
	130					135					140					
Gly	Pro	Phe	Arg	Ser	Ser	Cys	Glu	Leu	Ile	Ser	Pro	Thr	Ser	Tyr	Ser	
145					150					155					160	
Leu	Asn	Tyr	Val	Thr	Arg	Val	Ile	Ser	Asn	Ile	Leu	Leu	Gly	Tyr	Pro	
				165					170					175		
Tyr	Thr	Lys	Leu	Ala	Arg	Leu	Leu	Cys	Asp	Val	Ser	Met	Arg	Arg	Asp	
			180					185					190			
Gly	Met	Ser	Lys	Val	Phe	Asn	Ala	Asp	Pro	Ile	Ser	Phe	Leu	Tyr	Met	
		195					200					205				
His	Lys	Gly	Val	Thr	Leu	Leu	Met	Leu	Leu	Glu	Val	Ile	Ala	His	Ile	
	210						215					220				
Ser	Ser	Gly	Cys	Ile	Val	Leu	Leu	Thr	Leu	Gly	Val	Ala	Tyr	Thr	Pro	
225					230					235					240	
Cys	Ala	Leu	Leu	Tyr	Pro	Thr	Tyr	Ile	Arg	Ile	Leu	Ala	Trp	Val	Val	
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Val	Cys	Thr	Leu	Ala	Ile	Val	Glu	Leu	Ile	Ser	Tyr	Val	Arg	Pro	Lys	
			260					265					270			
Pro	Thr	Lys	Asp	Asn	His	Leu	Asn	His	Ile	Asn	Thr	Gly	Gly	Ile	Arg	
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Gly	Ile	Cys	Thr	Thr	Cys	Cys	Ala	Thr	Val	Met	Ser	Gly	Leu	Ala	Ile	
	290					295					300					

Lys Cys Phe Tyr Ile Val Ile Phe Ala Ile Ala Val Val Ile Phe Met
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Ser Gln Lys His
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<210> 77
<211> 452
<212> PRT
<213> Varicella zoster

<400> 77

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Leu Glu Val Thr Asp Trp Ala Asn Asp Glu Ala Ile Gly Ser Thr Pro
35 40 45

Gly Glu Asp Ser Thr Thr Ser Arg Thr Val Tyr Val Glu Arg Thr Ala
50 55 60

Asp Thr Ala Tyr Asn Pro Arg Tyr Ser Lys Arg Arg His Gly Arg Arg
65 70 75 80

Glu Ser Tyr His His Asn Arg Pro Lys Thr Leu Val Val Val Leu Pro
85 90 95

Asp Ser Asn His His Gly Gly Arg Asp Val Glu Thr Gly Tyr Ala Arg
100 105 110

Ile Glu Arg Gly His Arg Arg Ser Ser Arg Ser Tyr Asn Thr Gln Ser
115 120 125

Ser Arg Lys His Arg Asp Arg Ser Leu Ser Asn Arg Arg Arg Pro
130 135 140

Thr Thr Pro Pro Ala Met Thr Thr Gly Glu Arg Asn Asp Gln Thr His
145 150 155 160

Asp	Glu	Ser	Tyr	Arg	Leu	Arg	Phe	Ser	Lys	Arg	Asp	Ala	Arg	Arg	Glu	
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Arg	Ile	Arg	Lys	Glu	Tyr	Asp	Ile	Pro	Val	Asp	Arg	Ile	Thr	Gly	Arg	
			180					185						190		
Ala	Ile	Glu	Val	Val	Ser	Thr	Ala	Gly	Ala	Ser	Val	Thr	Ile	Asp	Ser	
		195					200					205				
Val	Arg	His	Leu	Asp	Glu	Thr	Ile	Glu	Lys	Leu	Val	Val	Arg	Tyr	Ala	
	210					215					220					
Thr	Ile	Gln	Glu	Gly	Asp	Ser	Trp	Ala	Ser	Gly	Gly	Cys	Phe	Pro	Gly	
225					230					235					240	
Ile	Lys	Gln	Asn	Thr	Ser	Trp	Pro	Glu	Leu	Met	Leu	Tyr	Gly	His	Glu	
				245					250					255		
Leu	Tyr	Arg	Thr	Phe	Glu	Ser	Tyr	Lys	Met	Asp	Ser	Arg	Ile	Ala	Arg	
			260					265					270			
Ala	Leu	Arg	Glu	Arg	Val	Ile	Arg	Gly	Glu	Ser	Leu	Ile	Glu	Ala	Leu	
		275					280					285				
Glu	Ser	Ala	Asp	Glu	Leu	Leu	Thr	Trp	Ile	Lys	Met	Leu	Ala	Ala	Lys	
	290					295					300					
Asn	Leu	Pro	Ile	Tyr	Thr	Asn	Asn	Pro	Ile	Val	Ala	Thr	Ser	Lys	Ser	
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Leu	Leu	Glu	Asn	Leu	Lys	Leu	Lys	Leu	Gly	Pro	Phe	Val	Arg	Cys	Leu	
			325						330					335		
Leu	Leu	Asn	Arg	Asp	Asn	Asp	Leu	Gly	Ser	Arg	Thr	Leu	Pro	Glu	Leu	
		340						345					350			
Leu	Arg	Gln	Gln	Arg	Phe	Ser	Asp	Ile	Thr	Cys	Ile	Thr	Thr	Tyr	Met	
		355					360					365				
Phe	Val	Met	Ile	Ala	Arg	Ile	Ala	Asn	Ile	Val	Val	Arg	Gly	Ser	Lys	
	370					375					380					
Phe	Val	Glu	Tyr	Asp	Asp	Ile	Ser	Cys	Asn	Val	Gln	Val	Leu	Gln	Glu	
385					390					395					400	

Tyr Thr Pro Gly Ser Cys Leu Ala Gly Val Leu Glu Ala Leu Ile Thr
405 410 415

His Gln Arg Glu Cys Gly Arg Val Glu Cys Thr Leu Ser Thr Trp Ala
420 425 430

Gly His Leu Ser Asp Ala Arg Pro Tyr Gly Lys Tyr Phe Lys Cys Ser
435 440 445

Thr Phe Asn Cys
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<210> 78
<211> 179
<212> PRT
<213> Varicella zoster

<400> 78

Met Asp Thr Thr Gly Ala Ser Glu Ser Ser Gln Pro Ile Arg Val Asn
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Leu Lys Pro Asp Pro Leu Ala Ser Phe Thr Gln Val Ile Pro Pro Leu
20 25 30

Ala Leu Glu Thr Thr Trp Thr Cys Pro Ala Asn Ser His Ala Pro Thr
35 40 45

Pro Ser Pro Leu Tyr Gly Val Lys Arg Leu Cys Ala Leu Arg Ala Thr
50 55 60

Cys Gly Arg Ala Asp Asp Leu His Ala Phe Leu Ile Gly Leu Gly Arg
65 70 75 80

Arg Asp Lys Pro Ser Glu Ser Pro Met Tyr Val Asp Leu Gln Pro Phe
85 90 95

Cys Ser Leu Leu Asn Ser Gln Arg Leu Leu Pro Glu Met Ala Asn Tyr
100 105 110

Asn Thr Leu Cys Asp Ala Pro Phe Ser Ala Ala Thr Gln Gln Met Met
115 120 125

Leu Glu Ser Gly Gln Leu Gly Val His Leu Ala Ala Ile Gly Tyr His
130 135 140

Cys His Cys Lys Ser Pro Phe Ser Ala Glu Cys Trp Thr Gly Ala Ser

145 150 155 160

Glu Ala Tyr Asp His Val Val Cys Gly Gly Lys Ala Arg Ala Ala Val
165 170 175

Gly Gly Leu

<210> 79
<211> 108
<212> PRT
<213> Varicella zoster

<400> 79

Met Ser Arg Val Ser Glu Tyr Gly Val Pro Glu Gly Val Arg Glu Ser
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Asp Ser Asp Thr Asp Ser Val Phe Met Tyr Gln His Thr Glu Leu Met
20 25 30

Gln Asn Asn Ala Ser Pro Leu Val Val Gln Thr Arg Pro Pro Ala Val
35 40 45

Leu Ile Pro Leu Val Asp Val Pro Arg Pro Arg Ser Arg Arg Lys Ala
50 55 60

Ser Ala Gln Leu Lys Met Gln Met Asp Arg Leu Cys Asn Val Leu Gly
65 70 75 80

Val Val Leu Gln Met Ala Thr Leu Ala Leu Val Thr Tyr Ile Ala Phe
85 90 95

Val Val His Thr Arg Ala Thr Ser Cys Lys Arg Glu
100 105

<210> 80
<211> 5743
<212> DNA
<213> Varicella zoster

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<400> 80

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Met Ser Leu Ile Met Phe Gly Arg Thr Leu Gly Glu Glu Ser Val Arg	
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tat ttt gaa cgt cta aag cgt cgt agg gat gaa cgc ttt ggg acg ttg	96
Tyr Phe Glu Arg Leu Lys Arg Arg Arg Asp Glu Arg Phe Gly Thr Leu	
20 25 30	
gag tcc cct acc ccg tgt tcc acg cgg caa ggg tct ctg gga aac gca	144
Glu Ser Pro Thr Pro Cys Ser Thr Arg Gln Gly Ser Leu Gly Asn Ala	
35 40 45	
acc caa atc ccg ttt ctg aat ttt gct ata gat gta acc cga cgt cat	192
Thr Gln Ile Pro Phe Leu Asn Phe Ala Ile Asp Val Thr Arg Arg His	
50 55 60	
cag gcc gtt att ccc gga att gga acg ctt cac aac tgt tgt gaa tat	240
Gln Ala Val Ile Pro Gly Ile Gly Thr Leu His Asn Cys Cys Glu Tyr	
65 70 75 80	
att cca ctg ttc tcg gct act gct cga cgg gca atg ttt ggc gcg ttt	288
Ile Pro Leu Phe Ser Ala Thr Ala Arg Arg Ala Met Phe Gly Ala Phe	
85 90 95	
cta tcg tca aca ggg tac aac tgt acc ccc aat gta gtt ttg aaa cca	336
Leu Ser Ser Thr Gly Tyr Asn Cys Thr Pro Asn Val Val Leu Lys Pro	
100 105 110	
tgg cga tat tcg gta aat gca aac gta agc cct gaa tta aaa aag gct	384
Trp Arg Tyr Ser Val Asn Ala Asn Val Ser Pro Glu Leu Lys Lys Ala	
115 120 125	
gtc agt agt gta cag ttt tat gaa tat tca ccg gaa gaa gca gca cct	432
Val Ser Ser Val Gln Phe Tyr Glu Tyr Ser Pro Glu Glu Ala Ala Pro	
130 135 140	
cat cga aat gcg tat agc ggt gtt atg aac aca ttt cgc gcg ttt tct	480
His Arg Asn Ala Tyr Ser Gly Val Met Asn Thr Phe Arg Ala Phe Ser	
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ctg tcg gat agt ttc tgt cag ttg tct acc ttt aca caa cgg ttt tcg	528
Leu Ser Asp Ser Phe Cys Gln Leu Ser Thr Phe Thr Gln Arg Phe Ser	
165 170 175	
tac ctt gtg gaa aca tct ttt gag agt att gaa gag tgt gga agt cat	576
Tyr Leu Val Glu Thr Ser Phe Glu Ser Ile Glu Glu Cys Gly Ser His	
180 185 190	
ggc aaa cgc gca aag gtt gac gtt cca atc tat ggc aga tat aag ggg	624
Gly Lys Arg Ala Lys Val Asp Val Pro Ile Tyr Gly Arg Tyr Lys Gly	
195 200 205	
acg ttg gaa ctg ttt caa aaa atg atc ctc atg cac acc acg cat ttt	672
Thr Leu Glu Leu Phe Gln Lys Met Ile Leu Met His Thr Thr His Phe	
210 215 220	
att tca tcg gtg cta ttg ggc gat cat gcc gac aga gtt gac tgc ttt	720
Ile Ser Ser Val Leu Leu Gly Asp His Ala Asp Arg Val Asp Cys Phe	
225 230 235 240	

ctg cgt aca gtg ttt aac acg cca agt gtt tct gac agt gtt tta gaa	768
Leu Arg Thr Val Phe Asn Thr Pro Ser Val Ser Asp Ser Val Leu Glu	
245 250 255	
cac ttc aaa caa aaa tca act gtg ttt ttg gta cca cgt aga cat ggg	816
His Phe Lys Gln Lys Ser Thr Val Phe Leu Val Pro Arg Arg His Gly	
260 265 270	
aaa aca tgg ttt ctt gta cca tta ata gct tta gta atg gcc acg ttt	864
Lys Thr Trp Phe Leu Val Pro Leu Ile Ala Leu Val Met Ala Thr Phe	
275 280 285	
aga gga att aaa gtg ggt tat acg gct cat ata cgc aaa gca acg gaa	912
Arg Gly Ile Lys Val Gly Tyr Thr Ala His Ile Arg Lys Ala Thr Glu	
290 295 300	
ccc gtg ttt gag ggt atc aag tct cgc ctg gaa cag tgg ttt ggg gca	960
Pro Val Phe Glu Gly Ile Lys Ser Arg Leu Glu Gln Trp Phe Gly Ala	
305 310 315 320	
aat tac gtg gat cat gta aaa ggc gaa tct att acg ttt tca ttt acc	1008
Asn Tyr Val Asp His Val Lys Gly Glu Ser Ile Thr Phe Ser Phe Thr	
325 330 335	
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Asp Gly Ser Tyr Ser Thr Ala Val Phe Ala Ser Ser His Asn Thr Asn	
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aaacattttt tacgtacgtg gtatttaagg	atacatttaa	actttgggtg	ggtaactata	4536
tatctttcta tctttccag ggt atc cga	ggt caa gat ttt aat ctt ctg ttt			4588
	Gly Ile Arg Gly Gln Asp Phe Asn Leu Leu Phe			
	355 360			
gtg gat gaa gct aat ttt att cga	cct gat gct gta caa act ata gtc			4636
Val Asp Glu Ala Asn Phe Ile Arg	Pro Asp Ala Val Gln Thr Ile Val			
365 370	375			
gga ttt tta aat caa acc aat tgt	aaa att att ttt gtt tca tca aca			4684
Gly Phe Leu Asn Gln Thr Asn Cys	Lys Ile Ile Phe Val Ser Ser Thr			
380 385	390 395			
aat acc gga aaa gca agt aca agt	ttt ttg tat aac tta cgt gga tgc			4732
Asn Thr Gly Lys Ala Ser Thr Ser	Phe Leu Tyr Asn Leu Arg Gly Ser			
400 405	410			
tgc gat cag ttg tta aac gtt gtt	aca tat gta tgc gac gat cac atg			4780
Ser Asp Gln Leu Leu Asn Val Val	Thr Tyr Val Cys Asp Asp His Met			
415 420	425			
ccg cgt gtt tta gca cat agc gat	gtc aca gct tgt tgc tgt tat gta			4828
Pro Arg Val Leu Ala His Ser Asp	Val Thr Ala Cys Ser Cys Tyr Val			
430 435	440			
tta aat aag ccg gtt ttc atc aca	atg gat gga gcc atg ccg cgc act			4876
Leu Asn Lys Pro Val Phe Ile Thr	Met Asp Gly Ala Met Arg Arg Thr			
445 450	455			
gca gat tta ttt atg gcc gac tcc	ttc gtg cag gaa att gta ggt ggg			4924
Ala Asp Leu Phe Met Ala Asp Ser	Phe Val Gln Glu Ile Val Gly Gly			
460 465	470 475			
cgt aaa cag aat tct ggg ggt gtg	ggg ttt gac ccg cca tta ttt aca			4972
Arg Lys Gln Asn Ser Gly Gly Val	Gly Phe Asp Arg Pro Leu Phe Thr			
480 485	490			

aaa act gcc cgt gag agg ttt att tta tat cgg ccg tca acc gtt gcg	5020
Lys Thr Ala Arg Glu Arg Phe Ile Leu Tyr Arg Pro Ser Thr Val Ala	
495 500 505	
aat tgt gct ata tta tcg tca gtg ttg tac gtt tac gta gac cct gca	5068
Asn Cys Ala Ile Leu Ser Ser Val Leu Tyr Val Tyr Val Asp Pro Ala	
510 515 520	
ttt acc tca aat aca cga gcg tct ggt act ggt gta gcg att gtt ggt	5116
Phe Thr Ser Asn Thr Arg Ala Ser Gly Thr Gly Val Ala Ile Val Gly	
525 530 535	
cgt tat aag tcg gat tgg att ata ttt gga ttg gag cac ttt ttt ctt	5164
Arg Tyr Lys Ser Asp Trp Ile Ile Phe Gly Leu Glu His Phe Phe Leu	
540 545 550 555	
aga gct tta act ggc acg tct tcc agt gag ata ggg cgt tgc gtt act	5212
Arg Ala Leu Thr Gly Thr Ser Ser Ser Glu Ile Gly Arg Cys Val Thr	
560 565 570	
caa tgc tta ggc cac ata ctc gct tta cac ccc aat aca ttt aca aac	5260
Gln Cys Leu Gly His Ile Leu Ala Leu His Pro Asn Thr Phe Thr Asn	
575 580 585	
gta cac gtt tct ata gag gga aac agc agc cag gat tct gca gtt gcc	5308
Val His Val Ser Ile Glu Gly Asn Ser Ser Gln Asp Ser Ala Val Ala	
590 595 600	
ata tcg ttg gct ata gca caa cag ttt gct gtc ctc gaa aag gga aac	5356
Ile Ser Leu Ala Ile Ala Gln Gln Phe Ala Val Leu Glu Lys Gly Asn	
605 610 615	
gtg cta tct tcc gct cca gtg tta ctg ttt tat cat tcc ata cct ccc	5404
Val Leu Ser Ser Ala Pro Val Leu Leu Phe Tyr His Ser Ile Pro Pro	
620 625 630 635	
gga tgt agc gtg gcg tac cct ttt ttt tta tta caa aaa caa aaa acg	5452
Gly Cys Ser Val Ala Tyr Pro Phe Phe Leu Leu Gln Lys Gln Lys Thr	
640 645 650	
ccg gcc gta gac tat ttt gtt aaa cga ttt aac tcc gga aat ata ata	5500
Pro Ala Val Asp Tyr Phe Val Lys Arg Phe Asn Ser Gly Asn Ile Ile	
655 660 665	
gcc tca cag gag ctt gta tcc cta aca gta aag tta ggt gta gac ccc	5548
Ala Ser Gln Glu Leu Val Ser Leu Thr Val Lys Leu Gly Val Asp Pro	
670 675 680	
gtg gag tat cta tgt aaa cag ttg gat aac ctg aca gag gta att aaa	5596
Val Glu Tyr Leu Cys Lys Gln Leu Asp Asn Leu Thr Glu Val Ile Lys	
685 690 695	
ggc ggt atg ggt aat cta gac aca aaa act tac acg ggt aaa ggt acc	5644
Gly Gly Met Gly Asn Leu Asp Thr Lys Thr Tyr Thr Gly Lys Gly Thr	
700 705 710 715	
acg gga aca atg tca gat gat ctg atg gtt gca tta att atg tcc gtg	5692
Thr Gly Thr Met Ser Asp Asp Leu Met Val Ala Leu Ile Met Ser Val	
720 725 730	

tat att ggc agt tca tgt ata ccg gat tcc gtg ttt atg cct att aaa	5740
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<400> 81

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35 40 45

Thr Gln Ile Pro Phe Leu Asn Phe Ala Ile Asp Val Thr Arg Arg His
50 55 60

Gln Ala Val Ile Pro Gly Ile Gly Thr Leu His Asn Cys Cys Glu Tyr
65 70 75 80

Ile Pro Leu Phe Ser Ala Thr Ala Arg Arg Ala Met Phe Gly Ala Phe
85 90 95

Leu Ser Ser Thr Gly Tyr Asn Cys Thr Pro Asn Val Val Leu Lys Pro
100 105 110

Trp Arg Tyr Ser Val Asn Ala Asn Val Ser Pro Glu Leu Lys Lys Ala
115 120 125

Val Ser Ser Val Gln Phe Tyr Glu Tyr Ser Pro Glu Glu Ala Ala Pro
130 135 140

His Arg Asn Ala Tyr Ser Gly Val Met Asn Thr Phe Arg Ala Phe Ser
145 150 155 160

Leu Ser Asp Ser Phe Cys Gln Leu Ser Thr Phe Thr Gln Arg Phe Ser
165 170 175

Tyr Leu Val Glu Thr Ser Phe Glu Ser Ile Glu Glu Cys Gly Ser His

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Gly	Lys	Arg	Ala	Lys	Val	Asp	Val	Pro	Ile	Tyr	Gly	Arg	Tyr	Lys	Gly	
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Thr	Leu	Glu	Leu	Phe	Gln	Lys	Met	Ile	Leu	Met	His	Thr	Thr	His	Phe	
	210					215					220					
Ile	Ser	Ser	Val	Leu	Leu	Gly	Asp	His	Ala	Asp	Arg	Val	Asp	Cys	Phe	
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Leu	Arg	Thr	Val	Phe	Asn	Thr	Pro	Ser	Val	Ser	Asp	Ser	Val	Leu	Glu	
				245					250					255		
His	Phe	Lys	Gln	Lys	Ser	Thr	Val	Phe	Leu	Val	Pro	Arg	Arg	His	Gly	
			260					265					270			
Lys	Thr	Trp	Phe	Leu	Val	Pro	Leu	Ile	Ala	Leu	Val	Met	Ala	Thr	Phe	
		275					280					285				
Arg	Gly	Ile	Lys	Val	Gly	Tyr	Thr	Ala	His	Ile	Arg	Lys	Ala	Thr	Glu	
	290					295					300					
Pro	Val	Phe	Glu	Gly	Ile	Lys	Ser	Arg	Leu	Glu	Gln	Trp	Phe	Gly	Ala	
305					310					315					320	
Asn	Tyr	Val	Asp	His	Val	Lys	Gly	Glu	Ser	Ile	Thr	Phe	Ser	Phe	Thr	
				325					330					335		
Asp	Gly	Ser	Tyr	Ser	Thr	Ala	Val	Phe	Ala	Ser	Ser	His	Asn	Thr	Asn	
			340					345					350			
Gly	Ile	Arg	Gly	Gln	Asp	Phe	Asn	Leu	Leu	Phe	Val	Asp	Glu	Ala	Asn	
		355					360					365				
Phe	Ile	Arg	Pro	Asp	Ala	Val	Gln	Thr	Ile	Val	Gly	Phe	Leu	Asn	Gln	
	370					375					380					
Thr	Asn	Cys	Lys	Ile	Ile	Phe	Val	Ser	Ser	Thr	Asn	Thr	Gly	Lys	Ala	
385					390					395					400	
Ser	Thr	Ser	Phe	Leu	Tyr	Asn	Leu	Arg	Gly	Ser	Ser	Asp	Gln	Leu	Leu	
				405					410					415		
Asn	Val	Val	Thr	Tyr	Val	Cys	Asp	Asp	His	Met	Pro	Arg	Val	Leu	Ala	

	420		425		430												
His	Ser	Asp	Val	Thr	Ala	Cys	Ser	Cys	Tyr	Val	Leu	Asn	Lys	Pro	Val		
	435						440					445					
Phe	Ile	Thr	Met	Asp	Gly	Ala	Met	Arg	Arg	Thr	Ala	Asp	Leu	Phe	Met		
	450					455					460						
Ala	Asp	Ser	Phe	Val	Gln	Glu	Ile	Val	Gly	Gly	Arg	Lys	Gln	Asn	Ser		
465					470					475					480		
Gly	Gly	Val	Gly	Phe	Asp	Arg	Pro	Leu	Phe	Thr	Lys	Thr	Ala	Arg	Glu		
				485					490						495		
Arg	Phe	Ile	Leu	Tyr	Arg	Pro	Ser	Thr	Val	Ala	Asn	Cys	Ala	Ile	Leu		
			500					505					510				
Ser	Ser	Val	Leu	Tyr	Val	Tyr	Val	Asp	Pro	Ala	Phe	Thr	Ser	Asn	Thr		
		515					520					525					
Arg	Ala	Ser	Gly	Thr	Gly	Val	Ala	Ile	Val	Gly	Arg	Tyr	Lys	Ser	Asp		
	530					535					540						
Trp	Ile	Ile	Phe	Gly	Leu	Glu	His	Phe	Phe	Leu	Arg	Ala	Leu	Thr	Gly		
545					550					555					560		
Thr	Ser	Ser	Ser	Glu	Ile	Gly	Arg	Cys	Val	Thr	Gln	Cys	Leu	Gly	His		
				565					570					575			
Ile	Leu	Ala	Leu	His	Pro	Asn	Thr	Phe	Thr	Asn	Val	His	Val	Ser	Ile		
			580					585					590				
Glu	Gly	Asn	Ser	Ser	Gln	Asp	Ser	Ala	Val	Ala	Ile	Ser	Leu	Ala	Ile		
		595					600					605					
Ala	Gln	Gln	Phe	Ala	Val	Leu	Glu	Lys	Gly	Asn	Val	Leu	Ser	Ser	Ala		
	610					615					620						
Pro	Val	Leu	Leu	Phe	Tyr	His	Ser	Ile	Pro	Pro	Gly	Cys	Ser	Val	Ala		
625					630					635					640		
Tyr	Pro	Phe	Phe	Leu	Leu	Gln	Lys	Gln	Lys	Thr	Pro	Ala	Val	Asp	Tyr		
				645					650					655			
Phe	Val	Lys	Arg	Phe	Asn	Ser	Gly	Asn	Ile	Ile	Ala	Ser	Gln	Glu	Leu		

660	665	670	
Val Ser Leu Thr Val Lys Leu Gly Val Asp Pro Val Glu Tyr Leu Cys			
675	680	685	
Lys Gln Leu Asp Asn Leu Thr Glu Val Ile Lys Gly Gly Met Gly Asn			
690	695	700	
Leu Asp Thr Lys Thr Tyr Thr Gly Lys Gly Thr Thr Gly Thr Met Ser			
705	710	715	720
Asp Asp Leu Met Val Ala Leu Ile Met Ser Val Tyr Ile Gly Ser Ser			
	725	730	735
Cys Ile Pro Asp Ser Val Phe Met Pro Ile Lys			
	740	745	
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<400> 82			
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Met Gly Thr Gln Lys Lys Gly Pro Arg Ser Glu Lys Val Ser Pro Tyr			
1 5 10 15			
gac acc acg aca ccc gag gtg gaa gcg tta gat cat caa atg gat acg			96
Asp Thr Thr Thr Pro Glu Val Glu Ala Leu Asp His Gln Met Asp Thr			
20 25 30			
ctt aat tgg cga att tgg ata att cag gtg atg atg ttc act ttg ggt			144
Leu Asn Trp Arg Ile Trp Ile Ile Gln Val Met Met Phe Thr Leu Gly			
35 40 45			
gcg gta atg ctc ctg gct acg tta att gcc gcc tct tct gaa tat acc			192
Ala Val Met Leu Leu Ala Thr Leu Ile Ala Ala Ser Ser Glu Tyr Thr			
50 55 60			
ggg atc cct tgt ttt tat gct gcc gta gtt gat tat gag tta ttt aac			240
Gly Ile Pro Cys Phe Tyr Ala Ala Val Val Asp Tyr Glu Leu Phe Asn			
65 70 75 80			
gcc acc cta gat ggg ggg gta tgg tcc gga aat aga ggt gga tac agc			288
Ala Thr Leu Asp Gly Gly Val Trp Ser Gly Asn Arg Gly Gly Tyr Ser			
85 90 95			
gcc ccg gtt ttg ttt ttg gaa cca cat agc gtt gtg gca ttt act tac			336
Ala Pro Val Leu Phe Leu Glu Pro His Ser Val Val Ala Phe Thr Tyr			

100										105					110					
tac	acg	gct	tta	acg	gca	atg	gcc	atg	gcg	gta	tat	aca	ctg	atc	acg	384				
Tyr	Thr	Ala	Leu	Thr	Ala	Met	Ala	Met	Ala	Val	Tyr	Thr	Leu	Ile	Thr					
		115						120					125							
gcc	gcg	att	ata	cac	cga	gaa	acg	aaa	aat	caa	cgt	gtc	cgg	caa	agc	432				
Ala	Ala	Ile	Ile	His	Arg	Glu	Thr	Lys	Asn	Gln	Arg	Val	Arg	Gln	Ser					
	130					135					140									
tcc	ggt	gtt	gca	tgg	tta	gtt	gta	gat	ccc	aca	aca	ctt	ttt	tgg	ggt	480				
Ser	Gly	Val	Ala	Trp	Leu	Val	Val	Asp	Pro	Thr	Thr	Leu	Phe	Trp	Gly					
145					150					155					160					
ctt	ttg	tca	ttg	tgg	tta	tta	aac	gcc	gtt	gtg	tta	tta	tta	gct	tac	528				
Leu	Leu	Ser	Leu	Trp	Leu	Leu	Asn	Ala	Val	Val	Leu	Leu	Leu	Ala	Tyr					
			165					170						175						
aag	caa	atc	ggc	gtg	gct	gct	aca	tta	tat	ott	gga	cat	ttt	gcg	aca	576				
Lys	Gln	Ile	Gly	Val	Ala	Ala	Thr	Leu	Tyr	Leu	Gly	His	Phe	Ala	Thr					
		180					185					190								
agt	gta	ata	ttt	aca	acg	tat	ttt	tgt	gga	cgc	gga	aaa	ttg	gac	gaa	624				
Ser	Val	Ile	Phe	Thr	Thr	Tyr	Phe	Cys	Gly	Arg	Gly	Lys	Leu	Asp	Glu					
		195				200						205								
acg	aac	ata	aaa	gcg	gtc	gca	aat	tta	cga	cag	cag	agc	gtc	ttt	tta	672				
Thr	Asn	Ile	Lys	Ala	Val	Ala	Asn	Leu	Arg	Gln	Gln	Ser	Val	Phe	Leu					
	210					215					220									
tat	cgc	ott	gcg	ggg	cct	acg	cgc	gca	gtg	tto	gtg	aat	ttg	atg	gct	720				
Tyr	Arg	Leu	Ala	Gly	Pro	Thr	Arg	Ala	Val	Phe	Val	Asn	Leu	Met	Ala					
225					230					235					240					
gcg	ttg	atg	gcg	ata	tgt	atc	cta	ttt	gta	tca	tta	atg	ctg	gaa	ott	768				
Ala	Leu	Met	Ala	Ile	Cys	Ile	Leu	Phe	Val	Ser	Leu	Met	Leu	Glu	Leu					
			245					250						255						
gtg	gtg	gcg	aat	cat	cta	cat	acg	gga	ctg	tgg	tca	tcg	gtg	tcc	gtg	816				
Val	Val	Ala	Asn	His	Leu	His	Thr	Gly	Leu	Trp	Ser	Ser	Val	Ser	Val					
			260				265						270							
gcc	atg	tct	aca	ttt	agt	aca	ttg	tca	gtt	gta	tat	ott	ata	gta	tca	864				
Ala	Met	Ser	Thr	Phe	Ser	Thr	Leu	Ser	Val	Val	Tyr	Leu	Ile	Val	Ser					
		275					280					285								
gaa	tta	att	ttg	gcg	cat	tat	ata	cac	gtg	tta	ata	gga	cgc	tcc	ctg	912				
Glu	Leu	Ile	Leu	Ala	His	Tyr	Ile	His	Val	Leu	Ile	Gly	Pro	Ser	Leu					
	290					295					300									
gga	acg	ctc	gtg	gcc	tgt	gct	acg	ttg	gga	acc	gcc	gcg	cac	tcg	tat	960				
Gly	Thr	Leu	Val	Ala	Cys	Ala	Thr	Leu	Gly	Thr	Ala	Ala	His	Ser	Tyr					
305					310					315					320					
atg	gac	cga	tta	tat	gac	cct	ata	tcg	gtt	caa	tct	cca	cgg	tta	att	1008				
Met	Asp	Arg	Leu	Tyr	Asp	Pro	Ile	Ser	Val	Gln	Ser	Pro	Arg	Leu	Ile					
			325						330					335						
ccc	aca	act	cgg	gga	acc	ttg	gct	tgc	ctg	gcc	gtg	ttt	tcc	gtt	gtc	1056				
Pro	Thr	Thr	Arg	Gly	Thr	Leu	Ala	Cys	Leu	Ala	Val	Phe	Ser	Val	Val					

	340		345		350	
	atg ttg ctt ctc aga ttg atg cgt gca tat gtg tat cat cga cag aaa					1104
	Met Leu Leu Leu Arg Leu Met Arg Ala Tyr Val Tyr His Arg Gln Lys					
	355		360		365	
	cgc agt cgg ttc tac ggt gcc gta aga aga gta ccc gag cgg gta cgg					1152
	Arg Ser Arg Phe Tyr Gly Ala Val Arg Arg Val Pro Glu Arg Val Arg					
	370		375		380	
	gga tac ata cga aaa gta aaa cct gca cat aga aat tct cgc cgc aca					1200
	Gly Tyr Ile Arg Lys Val Lys Pro Ala His Arg Asn Ser Arg Arg Thr					
	385		390		395	400
	aat tac cca tca caa ggc tac ggc tac gtc tat gaa aat gac tca aca					1248
	Asn Tyr Pro Ser Gln Gly Tyr Gly Tyr Val Tyr Glu Asn Asp Ser Thr					
	405		410		415	
	tat gaa acg gac cgc gag gat gag ctg tta tac gag cga tca aac agt					1296
	Tyr Glu Thr Asp Arg Glu Asp Glu Leu Leu Tyr Glu Arg Ser Asn Ser					
	420		425		430	
	ggg tgg gag tag					1308
	Gly Trp Glu					
	435					

<210> 83
 <211> 435
 <212> PRT
 <213> Varicella zoster

 <400> 83

Met Gly Thr Gln Lys Lys Gly Pro Arg Ser Glu Lys Val Ser Pro Tyr																
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Asp Thr Thr Thr Pro Glu Val Glu Ala Leu Asp His Gln Met Asp Thr																
			20				25						30			
Leu Asn Trp Arg Ile Trp Ile Ile Gln Val Met Met Phe Thr Leu Gly																
		35					40						45			
Ala Val Met Leu Leu Ala Thr Leu Ile Ala Ala Ser Ser Glu Tyr Thr																
	50					55					60					
Gly Ile Pro Cys Phe Tyr Ala Ala Val Val Asp Tyr Glu Leu Phe Asn																
65					70				75					80		
Ala Thr Leu Asp Gly Gly Val Trp Ser Gly Asn Arg Gly Gly Tyr Ser																
			85					90						95		
Ala Pro Val Leu Phe Leu Glu Pro His Ser Val Val Ala Phe Thr Tyr																
		100					105							110		

Tyr Thr Ala Leu Thr Ala Met Ala Met Ala Val Tyr Thr Leu Ile Thr
115 120 125

Ala Ala Ile Ile His Arg Glu Thr Lys Asn Gln Arg Val Arg Gln Ser
130 135 140

Ser Gly Val Ala Trp Leu Val Val Asp Pro Thr Thr Leu Phe Trp Gly
145 150 155 160

Leu Leu Ser Leu Trp Leu Leu Asn Ala Val Val Leu Leu Leu Ala Tyr
165 170 175

Lys Gln Ile Gly Val Ala Ala Thr Leu Tyr Leu Gly His Phe Ala Thr
180 185 190

Ser Val Ile Phe Thr Thr Tyr Phe Cys Gly Arg Gly Lys Leu Asp Glu
195 200 205

Thr Asn Ile Lys Ala Val Ala Asn Leu Arg Gln Gln Ser Val Phe Leu
210 215 220

Tyr Arg Leu Ala Gly Pro Thr Arg Ala Val Phe Val Asn Leu Met Ala
225 230 235 240

Ala Leu Met Ala Ile Cys Ile Leu Phe Val Ser Leu Met Leu Glu Leu
245 250 255

Val Val Ala Asn His Leu His Thr Gly Leu Trp Ser Ser Val Ser Val
260 265 270

Ala Met Ser Thr Phe Ser Thr Leu Ser Val Val Tyr Leu Ile Val Ser
275 280 285

Glu Leu Ile Leu Ala His Tyr Ile His Val Leu Ile Gly Pro Ser Leu
290 295 300

Gly Thr Leu Val Ala Cys Ala Thr Leu Gly Thr Ala Ala His Ser Tyr
305 310 315 320

Met Asp Arg Leu Tyr Asp Pro Ile Ser Val Gln Ser Pro Arg Leu Ile
325 330 335

Pro Thr Thr Arg Gly Thr Leu Ala Cys Leu Ala Val Phe Ser Val Val
340 345 350

Met Leu Leu Leu Arg Leu Met Arg Ala Tyr Val Tyr His Arg Gln Lys
 355 360 365

Arg Ser Arg Phe Tyr Gly Ala Val Arg Arg Val Pro Glu Arg Val Arg
 370 375 380

Gly Tyr Ile Arg Lys Val Lys Pro Ala His Arg Asn Ser Arg Arg Thr
 385 390 395 400

Asn Tyr Pro Ser Gln Gly Tyr Gly Tyr Val Tyr Glu Asn Asp Ser Thr
 405 410 415

Tyr Glu Thr Asp Arg Glu Asp Glu Leu Leu Tyr Glu Arg Ser Asn Ser
 420 425 430

Gly Trp Glu
 435

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 <211> 2310
 <212> DNA
 <213> Varicella zoster

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 Met Ala Glu Ile Thr Ser Leu Phe Asn Asn Ser Ser Gly Ser Glu Glu
 1 5 10 15
 aaa agg ata gca agt tct gtt tct att gac cag ggc ttg aat gga agt 96
 Lys Arg Ile Ala Ser Ser Val Ser Ile Asp Gln Gly Leu Asn Gly Ser
 20 25 30
 aac cca aat gac caa tac aag aac atg ttc gat ata tac tgg aat gag 144
 Asn Pro Asn Asp Gln Tyr Lys Asn Met Phe Asp Ile Tyr Trp Asn Glu
 35 40 45
 tac gcc ccg gat ata ggg ttt tgt aca ttt ccg gag gaa gat ggc tgg 192
 Tyr Ala Pro Asp Ile Gly Phe Cys Thr Phe Pro Glu Glu Asp Gly Trp
 50 55 60
 atg tta ata cac cca acc acg caa agt atg ttg ttt cga aaa atc cta 240
 Met Leu Ile His Pro Thr Thr Gln Ser Met Leu Phe Arg Lys Ile Leu
 65 70 75 80
 gcc ggt gac ttt gga tat acc gat gga caa ggc ata tat agc gct gta 288
 Ala Gly Asp Phe Gly Tyr Thr Asp Gly Gln Gly Ile Tyr Ser Ala Val
 85 90 95

egg tct acg gaa act gta att cgc caa gtt cag gca acc gtt ttg atg	336
Arg Ser Thr Glu Thr Val Ile Arg Gln Val Gln Ala Thr Val Leu Met	
100 105 110	
aac gcg ttg gat gca act cgg tat gag gac cta gca gca gat tgg gaa	384
Asn Ala Leu Asp Ala Thr Arg Tyr Glu Asp Leu Ala Ala Asp Trp Glu	
115 120 125	
cac cac atc caa caa tgt aac ctg cat gcc ggg gct cta gcg gaa cgt	432
His His Ile Gln Gln Cys Asn Leu His Ala Gly Ala Leu Ala Glu Arg	
130 135 140	
tat ggg cta tgt gga gaa tca gaa gcc gta cgg ctt gca cat cag gtt	480
Tyr Gly Leu Cys Gly Glu Ser Glu Ala Val Arg Leu Ala His Gln Val	
145 150 155 160	
ttt gaa acc tgg cgt caa aca tta cag tca tcg tta ctt gag ttt ctg	528
Phe Glu Thr Trp Arg Gln Thr Leu Gln Ser Ser Leu Leu Glu Phe Leu	
165 170 175	
cgt gga ata acc ggt tgt ctc tat acc agt ggt tta aat gga agg gtc	576
Arg Gly Ile Thr Gly Cys Leu Tyr Thr Ser Gly Leu Asn Gly Arg Val	
180 185 190	
ggg ttt gcc aaa tac gtg gac tgg ata gcc tgt gta ggt att gtg ccc	624
Gly Phe Ala Lys Tyr Val Asp Trp Ile Ala Cys Val Gly Ile Val Pro	
195 200 205	
gtt gta aga aag gta cga tca gaa cag aat gga acc cct gca cca tta	672
Val Val Arg Lys Val Arg Ser Glu Gln Asn Gly Thr Pro Ala Pro Leu	
210 215 220	
aat acg tat atg ggt caa gcg gca gaa ctg tcc cag atg tta aaa gtt	720
Asn Thr Tyr Met Gly Gln Ala Ala Glu Leu Ser Gln Met Leu Lys Val	
225 230 235 240	
gcc gat gca acg ttg gcc aga gga gcg gcg gtt gtc aca agc cta gtt	768
Ala Asp Ala Thr Leu Ala Arg Gly Ala Ala Val Val Thr Ser Leu Val	
245 250 255	
gag tgt atg caa aat gtt gct att atg gat tat gat agg acg cgt ctt	816
Glu Cys Met Gln Asn Val Ala Ile Met Asp Tyr Asp Arg Thr Arg Leu	
260 265 270	
tat tat aat tat aac cga aga tta att atg gca aag gat gat gta acg	864
Tyr Tyr Asn Tyr Asn Arg Arg Leu Ile Met Ala Lys Asp Asp Val Thr	
275 280 285	
ggc atg aag gga gag tgt ttg gtc gtg tgg ccg ccc gtt gta tgt ggg	912
Gly Met Lys Gly Glu Cys Leu Val Val Trp Pro Pro Val Val Cys Gly	
290 295 300	
gag ggt gta gta ttt gac tca ccc tta cag cgg ctt tct ggg gag gtg	960
Glu Gly Val Val Phe Asp Ser Pro Leu Gln Arg Leu Ser Gly Glu Val	
305 310 315 320	
ttg gcc tgt tat gca tta cgt gaa cat gct cgc gtc tgc caa gtt tta	1008
Leu Ala Cys Tyr Ala Leu Arg Glu His Ala Arg Val Cys Gln Val Leu	
325 330 335	

aat aca gcc cct ttg cgc gtg tta ata ggt cgc cgg aat gaa gat gat	1056
Asn Thr Ala Pro Leu Arg Val Leu Ile Gly Arg Arg Asn Glu Asp Asp	
340 345 350	
aga tct cac agc aca cgt gcg gtt gat cgt ata atg ggc gag aac gat	1104
Arg Ser His Ser Thr Arg Ala Val Asp Arg Ile Met Gly Glu Asn Asp	
355 360 365	
aca aca cgg gct gga tcg gcc gcg tct aga ctt gta aag cta ata gtt	1152
Thr Thr Arg Ala Gly Ser Ala Ala Ser Arg Leu Val Lys Leu Ile Val	
370 375 380	
aac tta aaa aac atg aga cat gtt gga gat att acc gaa acc gta cgt	1200
Asn Leu Lys Asn Met Arg His Val Gly Asp Ile Thr Glu Thr Val Arg	
385 390 395 400	
tcc tat cta gaa gaa acg ggc aat cac att ctg gaa gga agt gga tcg	1248
Ser Tyr Leu Glu Glu Thr Gly Asn His Ile Leu Glu Gly Ser Gly Ser	
405 410 415	
gtg gac aca tca caa ccg ggg ttt ggc aag gcc aac caa tcc ttt aac	1296
Val Asp Thr Ser Gln Pro Gly Phe Gly Lys Ala Asn Gln Ser Phe Asn	
420 425 430	
ggg ggg gca atg tcc gga aca aca aac gtt caa agt gcg ttt aaa act	1344
Gly Gly Ala Met Ser Gly Thr Thr Asn Val Gln Ser Ala Phe Lys Thr	
435 440 445	
tcg gtg gtt aac agt atc aac ggc atg ctc gag ggt tat gtg aat aat	1392
Ser Val Val Asn Ser Ile Asn Gly Met Leu Glu Gly Tyr Val Asn Asn	
450 455 460	
tta ttc aaa acc att gag ggt ctc aag gat gtg aac agc gat ctg acc	1440
Leu Phe Lys Thr Ile Glu Gly Leu Lys Asp Val Asn Ser Asp Leu Thr	
465 470 475 480	
gaa agg ctc cag ttc aaa gaa gga gag ctg aaa cgg tta cgg gaa gag	1488
Glu Arg Leu Gln Phe Lys Glu Gly Glu Leu Lys Arg Leu Arg Glu Glu	
485 490 495	
agg gta aaa ata aag cca tct aaa ggg tca cat att aca atg gca gaa	1536
Arg Val Lys Ile Lys Pro Ser Lys Gly Ser His Ile Thr Met Ala Glu	
500 505 510	
gaa aca cgt att gcc gat tta aat cac gag gtt ata gat ctt acc ggc	1584
Glu Thr Arg Ile Ala Asp Leu Asn His Glu Val Ile Asp Leu Thr Gly	
515 520 525	
ata ata ggg gat gat gca tat att gcc aat agt ttt caa tct cgt tat	1632
Ile Ile Gly Asp Asp Ala Tyr Ile Ala Asn Ser Phe Gln Ser Arg Tyr	
530 535 540	
atc ccc cct tat gga gat gat ata aaa cgt ttg tct gag cta tgg aaa	1680
Ile Pro Pro Tyr Gly Asp Asp Ile Lys Arg Leu Ser Glu Leu Trp Lys	
545 550 555 560	
cag gaa ctt gtt cgc tgt ttt aag ctt cac cgg gta aac aat aat caa	1728
Gln Glu Leu Val Arg Cys Phe Lys Leu His Arg Val Asn Asn Asn Gln	
565 570 575	

ggc cag gaa att tct gta tca tat tca aat gcg tca atc tca tta cta	1776
Gly Gln Glu Ile Ser Val Ser Tyr Ser Asn Ala Ser Ile Ser Leu Leu	
580 585 590	
ggt gcg ccg tat ttt tca ttc ata tta cgg gcc acc cga tta gga ttc	1824
Val Ala Pro Tyr Phe Ser Phe Ile Leu Arg Ala Thr Arg Leu Gly Phe	
595 600 605	
ttg gta act caa agc gag gta cat agg tca gag gaa gag tta tgc cag	1872
Leu Val Thr Gln Ser Glu Val His Arg Ser Glu Glu Glu Leu Cys Gln	
610 615 620	
gct att ttt aaa aag gcg aga aca gag tcc tat tta tcc caa atc cga	1920
Ala Ile Phe Lys Lys Ala Arg Thr Glu Ser Tyr Leu Ser Gln Ile Arg	
625 630 635 640	
ata tta tat gaa atg cag gtt cgc gca gag gta ata aaa cgg gcc cca	1968
Ile Leu Tyr Glu Met Gln Val Arg Ala Glu Val Ile Lys Arg Gly Pro	
645 650 655	
cgg aga aca cca agt cct tcc tgg ggt ttg cct gac cct aca gaa gat	2016
Arg Arg Thr Pro Ser Pro Ser Trp Gly Leu Pro Asp Pro Thr Glu Asp	
660 665 670	
gac gaa aga atc ccg gaa ccc aat aaa ata aat aac caa tac atg cat	2064
Asp Glu Arg Ile Pro Glu Pro Asn Lys Ile Asn Asn Gln Tyr Met His	
675 680 685	
ggt gga tat aaa aac cta tcc cat ttt atg aaa gga cac ccc cct gag	2112
Val Gly Tyr Lys Asn Leu Ser His Phe Met Lys Gly His Pro Pro Glu	
690 695 700	
agg tta cgg gta cac aag gta aat gca gcg gat tgc acc tta ctg gat	2160
Arg Leu Arg Val His Lys Val Asn Ala Ala Asp Ser Thr Leu Leu Asp	
705 710 715 720	
aaa att cga gca aac cgg agg cgc ggg gat gcc cga tgg gat gtc cgg	2208
Lys Ile Arg Ala Asn Arg Arg Arg Gly Asp Gly Arg Trp Asp Val Arg	
725 730 735	
aat aaa tat acc cag cat ttt agg ttg cag cgt aac gat cga caa ott	2256
Asn Lys Tyr Thr Gln His Phe Arg Leu Gln Arg Asn Asp Arg Gln Leu	
740 745 750	
act aac acg agc cga aga ggg gtt gga tgt gag cga cgt gat cga aga	2304
Thr Asn Thr Ser Arg Arg Gly Val Gly Cys Glu Arg Arg Asp Arg Arg	
755 760 765	
tct tag	2310
Ser	

<210> 85
 <211> 769
 <212> PRT
 <213> Varicella zoster

 <400> 85

Met	Ala	Glu	Ile	Thr	Ser	Leu	Phe	Asn	Asn	Ser	Ser	Gly	Ser	Glu	Glu	1	5	10	15
Lys	Arg	Ile	Ala	Ser	Ser	Val	Ser	Ile	Asp	Gln	Gly	Leu	Asn	Gly	Ser	20	25	30	
Asn	Pro	Asn	Asp	Gln	Tyr	Lys	Asn	Met	Phe	Asp	Ile	Tyr	Trp	Asn	Glu	35	40	45	
Tyr	Ala	Pro	Asp	Ile	Gly	Phe	Cys	Thr	Phe	Pro	Glu	Glu	Asp	Gly	Trp	50	55	60	
Met	Leu	Ile	His	Pro	Thr	Thr	Gln	Ser	Met	Leu	Phe	Arg	Lys	Ile	Leu	65	70	75	80
Ala	Gly	Asp	Phe	Gly	Tyr	Thr	Asp	Gly	Gln	Gly	Ile	Tyr	Ser	Ala	Val	85	90	95	
Arg	Ser	Thr	Glu	Thr	Val	Ile	Arg	Gln	Val	Gln	Ala	Thr	Val	Leu	Met	100	105	110	
Asn	Ala	Leu	Asp	Ala	Thr	Arg	Tyr	Glu	Asp	Leu	Ala	Ala	Asp	Trp	Glu	115	120	125	
His	His	Ile	Gln	Gln	Cys	Asn	Leu	His	Ala	Gly	Ala	Leu	Ala	Glu	Arg	130	135	140	
Tyr	Gly	Leu	Cys	Gly	Glu	Ser	Glu	Ala	Val	Arg	Leu	Ala	His	Gln	Val	145	150	155	160
Phe	Glu	Thr	Trp	Arg	Gln	Thr	Leu	Gln	Ser	Ser	Leu	Leu	Glu	Phe	Leu	165	170	175	
Arg	Gly	Ile	Thr	Gly	Cys	Leu	Tyr	Thr	Ser	Gly	Leu	Asn	Gly	Arg	Val	180	185	190	
Gly	Phe	Ala	Lys	Tyr	Val	Asp	Trp	Ile	Ala	Cys	Val	Gly	Ile	Val	Pro	195	200	205	
Val	Val	Arg	Lys	Val	Arg	Ser	Glu	Gln	Asn	Gly	Thr	Pro	Ala	Pro	Leu	210	215	220	
Asn	Thr	Tyr	Met	Gly	Gln	Ala	Ala	Glu	Leu	Ser	Gln	Met	Leu	Lys	Val	225	230	235	240

Ala Asp Ala Thr Leu Ala Arg Gly Ala Ala Val Val Thr Ser Leu Val
245 250 255

Glu Cys Met Gln Asn Val Ala Ile Met Asp Tyr Asp Arg Thr Arg Leu
260 265 270

Tyr Tyr Asn Tyr Asn Arg Arg Leu Ile Met Ala Lys Asp Asp Val Thr
275 280 285

Gly Met Lys Gly Glu Cys Leu Val Val Trp Pro Pro Val Val Cys Gly
290 295 300

Glu Gly Val Val Phe Asp Ser Pro Leu Gln Arg Leu Ser Gly Glu Val
305 310 315 320

Leu Ala Cys Tyr Ala Leu Arg Glu His Ala Arg Val Cys Gln Val Leu
325 330 335

Asn Thr Ala Pro Leu Arg Val Leu Ile Gly Arg Arg Asn Glu Asp Asp
340 345 350

Arg Ser His Ser Thr Arg Ala Val Asp Arg Ile Met Gly Glu Asn Asp
355 360 365

Thr Thr Arg Ala Gly Ser Ala Ala Ser Arg Leu Val Lys Leu Ile Val
370 375 380

Asn Leu Lys Asn Met Arg His Val Gly Asp Ile Thr Glu Thr Val Arg
385 390 395 400

Ser Tyr Leu Glu Glu Thr Gly Asn His Ile Leu Glu Gly Ser Gly Ser
405 410 415

Val Asp Thr Ser Gln Pro Gly Phe Gly Lys Ala Asn Gln Ser Phe Asn
420 425 430

Gly Gly Ala Met Ser Gly Thr Thr Asn Val Gln Ser Ala Phe Lys Thr
435 440 445

Ser Val Val Asn Ser Ile Asn Gly Met Leu Glu Gly Tyr Val Asn Asn
450 455 460

Leu Phe Lys Thr Ile Glu Gly Leu Lys Asp Val Asn Ser Asp Leu Thr
465 470 475 480

Glu Arg Leu Gln Phe Lys Glu Gly Glu Leu Lys Arg Leu Arg Glu Glu
485 490 495

Arg Val Lys Ile Lys Pro Ser Lys Gly Ser His Ile Thr Met Ala Glu
500 505 510

Glu Thr Arg Ile Ala Asp Leu Asn His Glu Val Ile Asp Leu Thr Gly
515 520 525

Ile Ile Gly Asp Asp Ala Tyr Ile Ala Asn Ser Phe Gln Ser Arg Tyr
530 535 540

Ile Pro Pro Tyr Gly Asp Asp Ile Lys Arg Leu Ser Glu Leu Trp Lys
545 550 555 560

Gln Glu Leu Val Arg Cys Phe Lys Leu His Arg Val Asn Asn Asn Gln
565 570 575

Gly Gln Glu Ile Ser Val Ser Tyr Ser Asn Ala Ser Ile Ser Leu Leu
580 585 590

Val Ala Pro Tyr Phe Ser Phe Ile Leu Arg Ala Thr Arg Leu Gly Phe
595 600 605

Leu Val Thr Gln Ser Glu Val His Arg Ser Glu Glu Glu Leu Cys Gln
610 615 620

Ala Ile Phe Lys Lys Ala Arg Thr Glu Ser Tyr Leu Ser Gln Ile Arg
625 630 635 640

Ile Leu Tyr Glu Met Gln Val Arg Ala Glu Val Ile Lys Arg Gly Pro
645 650 655

Arg Arg Thr Pro Ser Pro Ser Trp Gly Leu Pro Asp Pro Thr Glu Asp
660 665 670

Asp Glu Arg Ile Pro Glu Pro Asn Lys Ile Asn Asn Gln Tyr Met His
675 680 685

Val Gly Tyr Lys Asn Leu Ser His Phe Met Lys Gly His Pro Pro Glu
690 695 700

Arg Leu Arg Val His Lys Val Asn Ala Ala Asp Ser Thr Leu Leu Asp
705 710 715 720

Lys Ile Arg Ala Asn Arg Arg Arg Gly Asp Gly Arg Trp Asp Val Arg
725 730 735

Asn Lys Tyr Thr Gln His Phe Arg Leu Gln Arg Asn Asp Arg Gln Leu
740 745 750

Thr Asn Thr Ser Arg Arg Gly Val Gly Cys Glu Arg Arg Asp Arg Arg
755 760 765

Ser

<210> 86
<211> 666
<212> DNA
<213> Varicella zoster

<220>
<221> CDS
<222> (1)..(666)

<400> 86
atg ttt tgc gag ttg cct cct tcc gta ccg acg gca ttg ctt caa tgg 48
Met Phe Ser Glu Leu Pro Pro Ser Val Pro Thr Ala Leu Leu Gln Trp
1 5 10 15
ggt tgg gga ttg cat cgt gga ccg tgt tgc atc cca aat ttt aaa cag 96
Gly Trp Gly Leu His Arg Gly Pro Cys Ser Ile Pro Asn Phe Lys Gln
20 25 30
gta gcc agc caa cac agt gtt cag aac gat ttt aca gaa aat agc gtt 144
Val Ala Ser Gln His Ser Val Gln Asn Asp Phe Thr Glu Asn Ser Val
35 40 45
gat gca aat gaa aaa ttt ccg att ggg cac gcg ggc tgt att gag aaa 192
Asp Ala Asn Glu Lys Phe Pro Ile Gly His Ala Gly Cys Ile Glu Lys
50 55 60
acc aaa gac gac tat gta cca ttt gat acg ttg ttc atg gta tca tct 240
Thr Lys Asp Asp Tyr Val Pro Phe Asp Thr Leu Phe Met Val Ser Ser
65 70 75 80
att gac gaa ctt ggg cgg aga caa tta acc gac acc atc cgc cgc agc 288
Ile Asp Glu Leu Gly Arg Arg Gln Leu Thr Asp Thr Ile Arg Arg Ser
85 90 95
ttg gtt atg aac gcc tgt gaa ata acg gtc gcg tgt acg aaa acc gca 336
Leu Val Met Asn Ala Cys Glu Ile Thr Val Ala Cys Thr Lys Thr Ala
100 105 110
gcc ttt tct ggt cga ggc gtg tca cga caa aaa cac gtg acc cta tct 384
Ala Phe Ser Gly Arg Gly Val Ser Arg Gln Lys His Val Thr Leu Ser
115 120 125

aaa aat aaa ttc aat cca tcc agt cat aag agc ctg caa atg ttt gtg	432
Lys Asn Lys Phe Asn Pro Ser Ser His Lys Ser Leu Gln Met Phe Val	
130 135 140	

ttg tgt caa aaa acc cat gca ccc cgt gtc aga aac cta ctg tac gag	480
Leu Cys Gln Lys Thr His Ala Pro Arg Val Arg Asn Leu Leu Tyr Glu	
145 150 155 160	

agt att cgt gca aga aga cct cgc cga tat tac acc cgc tca acg gac	528
Ser Ile Arg Ala Arg Arg Pro Arg Arg Tyr Tyr Thr Arg Ser Thr Asp	
165 170 175	

gga aaa tcg cgt ccg ttg gta cca gtg ttt gtg tat gag ttt acg gct	576
Gly Lys Ser Arg Pro Leu Val Pro Val Phe Val Tyr Glu Phe Thr Ala	
180 185 190	

tta gat cgt gtc ctt tta cat aag gaa aat act ttg acc gac caa cca	624
Leu Asp Arg Val Leu Leu His Lys Glu Asn Thr Leu Thr Asp Gln Pro	
195 200 205	

att aat act gaa aat agc ggt cat gga cgt acg aga acg taa	666
Ile Asn Thr Glu Asn Ser Gly His Gly Arg Thr Arg Thr	
210 215 220	

<210> 87
 <211> 221
 <212> PRT
 <213> Varicella zoster

<400> 87

Met Phe Ser Glu Leu Pro Pro Ser Val Pro Thr Ala Leu Leu Gln Trp
1 5 10 15

Gly Trp Gly Leu His Arg Gly Pro Cys Ser Ile Pro Asn Phe Lys Gln
20 25 30

Val Ala Ser Gln His Ser Val Gln Asn Asp Phe Thr Glu Asn Ser Val
35 40 45

Asp Ala Asn Glu Lys Phe Pro Ile Gly His Ala Gly Cys Ile Glu Lys
50 55 60

Thr Lys Asp Asp Tyr Val Pro Phe Asp Thr Leu Phe Met Val Ser Ser
65 70 75 80

Ile Asp Glu Leu Gly Arg Arg Gln Leu Thr Asp Thr Ile Arg Arg Ser
85 90 95

Leu Val Met Asn Ala Cys Glu Ile Thr Val Ala Cys Thr Lys Thr Ala
100 105 110

Ala Phe Ser Gly Arg Gly Val Ser Arg Gln Lys His Val Thr Leu Ser
 115 120 125

Lys Asn Lys Phe Asn Pro Ser Ser His Lys Ser Leu Gln Met Phe Val
 130 135 140

Leu Cys Gln Lys Thr His Ala Pro Arg Val Arg Asn Leu Leu Tyr Glu
 145 150 155 160

Ser Ile Arg Ala Arg Arg Pro Arg Arg Tyr Tyr Thr Arg Ser Thr Asp
 165 170 175

Gly Lys Ser Arg Pro Leu Val Pro Val Phe Val Tyr Glu Phe Thr Ala
 180 185 190

Leu Asp Arg Val Leu Leu His Lys Glu Asn Thr Leu Thr Asp Gln Pro
 195 200 205

Ile Asn Thr Glu Asn Ser Gly His Gly Arg Thr Arg Thr
 210 215 220

<210> 88
 <211> 480
 <212> DNA
 <213> Varicella zoster

<220>
 <221> CDS
 <222> (1)..(480)

<400> 88
 atg gca tca cat aaa tgg tta ctg cag ata gtt ttt tta aaa act atc 48
 Met Ala Ser His Lys Trp Leu Leu Gln Ile Val Phe Leu Lys Thr Ile
 1 5 10 15
 aca atc gcg tat tgt ctt cat ctc caa gac gac act ccg ttg ttt ttt 96
 Thr Ile Ala Tyr Cys Leu His Leu Gln Asp Asp Thr Pro Leu Phe Phe
 20 25 30
 gga gcc aaa ccg cta tcg gat gtg agt ttg att ata acg gaa ccg tgc 144
 Gly Ala Lys Pro Leu Ser Asp Val Ser Leu Ile Ile Thr Glu Pro Cys
 35 40 45
 gtg tca tcg gta tat gag gcg tgg gac tat gcg gca ccc ccg gta tca 192
 Val Ser Ser Val Tyr Glu Ala Trp Asp Tyr Ala Pro Pro Val Ser
 50 55 60
 aac ctc agc gag gcg cta tcg gga atc gtg gtt aag aca aaa tgt cca 240
 Asn Leu Ser Glu Ala Leu Ser Gly Ile Val Val Lys Thr Lys Cys Pro
 65 70 75 80
 gta ccg gaa gtt ata ctt tgg ttt aaa gac aaa caa atg gcg tac tgg 288

Val	Pro	Glu	Val	Ile	Leu	Trp	Phe	Lys	Asp	Lys	Gln	Met	Ala	Tyr	Trp		
				85					90					95			
aca	aat	cca	tac	gtc	acc	tta	aag	ggg	ctg	gca	caa	tct	gtt	ggg	gaa	336	
Thr	Asn	Pro	Tyr	Val	Thr	Leu	Lys	Gly	Leu	Ala	Gln	Ser	Val	Gly	Glu		
			100					105					110				
gaa	cat	aaa	agc	ggg	gac	ata	cgc	gat	gct	ttg	ttg	gat	gcc	ctt	tcc	384	
Glu	His	Lys	Ser	Gly	Asp	Ile	Arg	Asp	Ala	Leu	Leu	Asp	Ala	Leu	Ser		
		115					120					125					
ggg	gta	tggt	gta	gac	tct	act	cca	tct	tcc	aca	aat	atc	cgc	gaa	aat	432	
Gly	Val	Trp	Val	Asp	Ser	Thr	Pro	Ser	Ser	Thr	Asn	Ile	Pro	Glu	Asn		
	130					135					140						
gga	tgt	gtc	tggt	gga	gcc	gac	cgt	ttg	ttc	caa	cgc	gta	tgc	caa	tga	480	
Gly	Cys	Val	Trp	Gly	Ala	Asp	Arg	Leu	Phe	Gln	Arg	Val	Cys	Gln			
145					150					155							

<210> 89
 <211> 159
 <212> PRT
 <213> Varicella zoster

<400> 89

Met	Ala	Ser	His	Lys	Trp	Leu	Leu	Gln	Ile	Val	Phe	Leu	Lys	Thr	Ile		
1				5					10					15			
Thr	Ile	Ala	Tyr	Cys	Leu	His	Leu	Gln	Asp	Asp	Thr	Pro	Leu	Phe	Phe		
			20					25					30				
Gly	Ala	Lys	Pro	Leu	Ser	Asp	Val	Ser	Leu	Ile	Ile	Thr	Glu	Pro	Cys		
		35					40					45					
Val	Ser	Ser	Val	Tyr	Glu	Ala	Trp	Asp	Tyr	Ala	Ala	Pro	Pro	Val	Ser		
	50					55					60						
Asn	Leu	Ser	Glu	Ala	Leu	Ser	Gly	Ile	Val	Val	Lys	Thr	Lys	Cys	Pro		
65					70					75				80			
Val	Pro	Glu	Val	Ile	Leu	Trp	Phe	Lys	Asp	Lys	Gln	Met	Ala	Tyr	Trp		
				85					90					95			
Thr	Asn	Pro	Tyr	Val	Thr	Leu	Lys	Gly	Leu	Ala	Gln	Ser	Val	Gly	Glu		
			100					105					110				
Glu	His	Lys	Ser	Gly	Asp	Ile	Arg	Asp	Ala	Leu	Leu	Asp	Ala	Leu	Ser		
		115					120					125					
Gly	Val	Trp	Val	Asp	Ser	Thr	Pro	Ser	Ser	Thr	Asn	Ile	Pro	Glu	Asn		

130		135		140	
Gly Cys Val Trp Gly Ala Asp Arg Leu Phe Gln Arg Val Cys Gln					
145		150		155	
<p><210> 90 <211> 909 <212> DNA <213> Varicella zoster</p> <p><220> <221> CDS <222> (1)..(909)</p> <p><400> 90</p>					
atg gct tct gta gca ggt aac gct agt aat atc tca cca cag ccc ccg					48
Met Ala Ser Val Ala Gly Asn Ala Ser Asn Ile Ser Pro Gln Pro Pro					
1	5	10	15		
tcg ggc gtt cca acc gga ggg gaa ttt gta ctg ata cct acc gcg tat					96
Ser Gly Val Pro Thr Gly Gly Glu Phe Val Leu Ile Pro Thr Ala Tyr					
	20	25	30		
tat tca cag ctg tta acc ggg cag act aaa aat ccg cag gta tca att					144
Tyr Ser Gln Leu Leu Thr Gly Gln Thr Lys Asn Pro Gln Val Ser Ile					
	35	40	45		
gga gct cca aat aac gga cag tat atc gtc ggg cca tat gga tct cca					192
Gly Ala Pro Asn Asn Gly Gln Tyr Ile Val Gly Pro Tyr Gly Ser Pro					
	50	55	60		
cac ccg cct gcc ttc cca cct aat aca ggg ggt tat ggt tgc cct ccg					240
His Pro Pro Ala Phe Pro Pro Asn Thr Gly Gly Tyr Gly Cys Pro Pro					
65	70	75	80		
gga cac ttc ggg gga ccg tac ggg ttt ccg gga tat cca cca ccc aat					288
Gly His Phe Gly Gly Pro Tyr Gly Phe Pro Gly Tyr Pro Pro Pro Asn					
	85	90	95		
cgt ttg gaa atg caa atg tcc gca ttt atg aac gca ttg gcc gcc gaa					336
Arg Leu Glu Met Gln Met Ser Ala Phe Met Asn Ala Leu Ala Ala Glu					
	100	105	110		
cgg ggt att gac ttg cag acc ccg tgt gta aat ttt cca gac aaa acc					384
Arg Gly Ile Asp Leu Gln Thr Pro Cys Val Asn Phe Pro Asp Lys Thr					
	115	120	125		
gat gtc cgt cgt cca gga aaa ccg gat ttc aag agc atg gat caa agg					432
Asp Val Arg Arg Pro Gly Lys Arg Asp Phe Lys Ser Met Asp Gln Arg					
	130	135	140		
gaa ttg gat tct ttt tat agt ggg gag tct caa atg gac gga gag ttt					480
Glu Leu Asp Ser Phe Tyr Ser Gly Glu Ser Gln Met Asp Gly Glu Phe					
145	150	155	160		
ccc tca aat ata tat ttt ccc ggt gaa cca acg tat ata acg cat ccg					528
Pro Ser Asn Ile Tyr Phe Pro Gly Glu Pro Thr Tyr Ile Thr His Arg					

165										170					175					
aga	cgt	cga	gtt	tct	cca	tca	tat	tgg	cag	agg	aga	cac	aga	gtt	tct	576				
Arg	Arg	Arg	Val	Ser	Pro	Ser	Tyr	Trp	Gln	Arg	Arg	His	Arg	Val	Ser					
			180					185					190							
aat	ggg	cag	cac	gaa	gag	ctt	gct	ggg	gtt	gtg	gca	aaa	ctg	caa	cag	624				
Asn	Gly	Gln	His	Glu	Glu	Leu	Ala	Gly	Val	Val	Ala	Lys	Leu	Gln	Gln					
		195					200					205								
gag	gtt	aca	gag	cta	aaa	tca	caa	aat	ggg	aca	caa	atg	cct	ttg	tcg	672				
Glu	Val	Thr	Glu	Leu	Lys	Ser	Gln	Asn	Gly	Thr	Gln	Met	Pro	Leu	Ser					
	210					215					220									
cac	cat	aca	aat	ata	cca	gag	ggg	aca	cgg	gat	cct	cga	ata	tcg	att	720				
His	His	Thr	Asn	Ile	Pro	Glu	Gly	Thr	Arg	Asp	Pro	Arg	Ile	Ser	Ile					
225				230					235					240						
tta	tta	aaa	cag	ctt	caa	agc	gtt	tcg	ggg	cta	tgc	tca	tcc	caa	aat	768				
Leu	Leu	Lys	Gln	Leu	Gln	Ser	Val	Ser	Gly	Leu	Cys	Ser	Ser	Gln	Asn					
			245					250						255						
aca	aca	agc	acc	cca	cat	aca	gat	aca	gtt	gga	caa	gat	gta	aat	gca	816				
Thr	Thr	Ser	Thr	Pro	His	Thr	Asp	Thr	Val	Gly	Gln	Asp	Val	Asn	Ala					
			260					265					270							
gtg	gag	gcg	agt	tcc	aag	gcc	cct	tta	ata	cag	ggg	tcc	acg	gca	gac	864				
Val	Glu	Ala	Ser	Ser	Lys	Ala	Pro	Leu	Ile	Gln	Gly	Ser	Thr	Ala	Asp					
		275					280					285								
gac	gcc	gat	atg	ttt	gca	aat	cag	atg	atg	gtg	ggg	cgg	tgt	taa		909				
Asp	Ala	Asp	Met	Phe	Ala	Asn	Gln	Met	Met	Val	Gly	Arg	Cys							
	290					295					300									

<210> 91
 <211> 302
 <212> PRT
 <213> Varicella zoster

<400> 91

Met	Ala	Ser	Val	Ala	Gly	Asn	Ala	Ser	Asn	Ile	Ser	Pro	Gln	Pro	Pro	
1				5					10					15		
Ser	Gly	Val	Pro	Thr	Gly	Gly	Glu	Phe	Val	Leu	Ile	Pro	Thr	Ala	Tyr	
			20					25					30			
Tyr	Ser	Gln	Leu	Leu	Thr	Gly	Gln	Thr	Lys	Asn	Pro	Gln	Val	Ser	Ile	
		35				40						45				
Gly	Ala	Pro	Asn	Asn	Gly	Gln	Tyr	Ile	Val	Gly	Pro	Tyr	Gly	Ser	Pro	
	50					55					60					
His	Pro	Pro	Ala	Phe	Pro	Pro	Asn	Thr	Gly	Gly	Tyr	Gly	Cys	Pro	Pro	
65					70					75				80		

Gly	His	Phe	Gly	Gly	Pro	Tyr	Gly	Phe	Pro	Gly	Tyr	Pro	Pro	Pro	Asn	
				85					90						95	
Arg	Leu	Glu	Met	Gln	Met	Ser	Ala	Phe	Met	Asn	Ala	Leu	Ala	Ala	Glu	
			100					105						110		
Arg	Gly	Ile	Asp	Leu	Gln	Thr	Pro	Cys	Val	Asn	Phe	Pro	Asp	Lys	Thr	
		115					120						125			
Asp	Val	Arg	Arg	Pro	Gly	Lys	Arg	Asp	Phe	Lys	Ser	Met	Asp	Gln	Arg	
	130					135						140				
Glu	Leu	Asp	Ser	Phe	Tyr	Ser	Gly	Glu	Ser	Gln	Met	Asp	Gly	Glu	Phe	
145					150					155					160	
Pro	Ser	Asn	Ile	Tyr	Phe	Pro	Gly	Glu	Pro	Thr	Tyr	Ile	Thr	His	Arg	
				165					170					175		
Arg	Arg	Arg	Val	Ser	Pro	Ser	Tyr	Trp	Gln	Arg	Arg	His	Arg	Val	Ser	
			180					185					190			
Asn	Gly	Gln	His	Glu	Glu	Leu	Ala	Gly	Val	Val	Ala	Lys	Leu	Gln	Gln	
		195					200					205				
Glu	Val	Thr	Glu	Leu	Lys	Ser	Gln	Asn	Gly	Thr	Gln	Met	Pro	Leu	Ser	
	210					215					220					
His	His	Thr	Asn	Ile	Pro	Glu	Gly	Thr	Arg	Asp	Pro	Arg	Ile	Ser	Ile	
225				230						235					240	
Leu	Leu	Lys	Gln	Leu	Gln	Ser	Val	Ser	Gly	Leu	Cys	Ser	Ser	Gln	Asn	
				245					250					255		
Thr	Thr	Ser	Thr	Pro	His	Thr	Asp	Thr	Val	Gly	Gln	Asp	Val	Asn	Ala	
			260					265					270			
Val	Glu	Ala	Ser	Ser	Lys	Ala	Pro	Leu	Ile	Gln	Gly	Ser	Thr	Ala	Asp	
		275					280					285				
Asp	Ala	Asp	Met	Phe	Ala	Asn	Gln	Met	Met	Val	Gly	Arg	Cys			
	290					295					300					